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Bringing it Home to Us

MORE attention is being given at the present time to making statements bringing home in a comprehensible manner to all sections of the public the realities of the economic situation, and showing the individual how his aspirations may affect the community. Mr. R. A. Butler, Chancellor of the Exchequer, dealt with the country's external trade balance from this point of view in a recent speech at Exeter. He showed that wage rates are now the decisive factor in export prices, for raw materials cost about the same to all countries. Any considerable rise in wages in the engineering industry, he said, would result in a loss of many existing markets, not to speak of any hope of increasing engineering exports. Elaborating this theme, he showed the further effect that would be exercised by a rise in the cost of fuel and transport, such as might arise from further wage claims following an increase given to one section of industry. The results as felt in the shape of a higher cost of living at home are probably the ones of most significance to the individual, but it is necessary to cultivate a wider outlook and consider the position of the country as a whole in relation to its competitors. There appeared to be an effort in the recent presidential address by Mr. H. W. Franklin to the annual meeting of the National Union of Railwaymen to put the effect of wages increases into a proper perspective when he told delegates that he did not think they should view wage increases alone with any great joy, for wages and salaries never seemed to catch up with prices. He went on, however, to reveal a purely sectional outlook when he contemplated a form of combined negotiation through a single trade union body under a Labour Government. A body of this type, he suggested, would negotiate with the Government in order to share out "the part of our national income allocated for wages purposes." This is not the time, however, for remedies based on a particular Government being in power, and harm is done by propagating the idea that a political approach is admissible in current circumstances.

Western Region Shed Staff Dispute

THE adoption by maintenance staff in some Western Region locomotive depots of go-slow tactics in reverting from piecework to timework, which began last week and continues as we go to press, is as foolish as it is wrong. The men's action is the result of dissatisfaction with piecework rates of pay. It is foolish partly because, as explained in the Western Region statement quoted on another page, piecework affords considerable additional earnings for those willing to work for them. It is wrong because it is a breach of a wage agreement, and because the delays to and cancellation of trains occasioned by the resultant difficulty in providing engines from the sheds affected have caused hardship and inconvenience to passengers and injury to the national economy through delays to goods traffic. Discussions were held earlier this week between the men concerned and the National Union of Railwaymen, which is opposed to the men's action, and the matter was referred informally by the N.U.R. to Mr. W. P. Allen, Member of the Railway Executive for staff matters, in an effort to achieve an early settlement. Meanwhile, staff at some sheds have resumed piecework, and extra staff have been engaged, as foretold in the Western Region statement. Talks are to be resumed, and there is hope now of an early settlement.

Savings from Diesel Traction in Ireland

HAD the Great Northern Railway of Ireland adopted diesel traction entirely it would have saved £520,000 in 1951 alone, Mr. G. B. Howden, General Manager, told the Northern Ireland Transport Tribunal, which has been inquiring into the operation of the Ulster Transport Authority. He said that while substitution of diesel for steam traction would not mean salvation for the railways it would "go a long way towards it." If the railways were equipped and operated on modern lines, they could be worked at least to cover the cost incurred. It was no exaggeration to say that by the adoption of diesel traction the whole character of railway working would be radically changed for the better. In present conditions in Ireland and having regard to the cost of coal, steam traction was neither desirable nor economic. Asked if there was any hope for electric traction in Ireland, Mr. Howden replied: "If someone would put up about £30,000,000, it would be all right, but I cannot think of anyone who would be prepared to do that."

Steel Construction

THE report has been issued of the productivity team which studied the steel construction industry in the U.S.A., the fifty-third British team to visit America under the auspices of the Anglo-American Council on Productivity. The field of study included bridgework and constructional steelwork, steel platework, as in storage tanks, and heavy pressure vessels, and mechanical handling plant. The team noted differences between British and American techniques and layouts and equipment for special needs which would be impracticable in Britain. These things alone, it is pointed out, do not account for the higher productivity of American works, nor does mass production—most of the works visited were of medium size—or the size of the American market, or natural resources, or differences in skill, or effort. "The roots are in vitality and confidence," the report states. "There is a general willing-

ness . . . to do the job in the most efficient way, making use of all aids to that end." The normal view of American management and labour on aids to production is "matched only by the most efficient British companies." The team concludes that however much Britain may look at or to America, the British people must for economic and social survival look at and to themselves, and "all make the same sensible approach to work and output."

Southern Region Punctuality

THE recent statement that during the four weeks ended May 17 over 95 per cent. of passenger trains run on British Railways were either on time or not more than five minutes late has been followed by an announcement that for the same period there was an all-time punctuality record on the Southern Region. During these four weeks, Southern Region passenger trains had an average late arrival of less than half a minute, with a combined average for steam and electric trains of 0·45 min. Mr. S. W. Smart, Superintendent of Operation, in the Southern Region edition of *British Railways Magazine*, comments that time-keeping was consistently good throughout the period and on no one day did the average late arrival of steam and electric trains exceed one min. The best day was May 14, when the average late arrival was 0·29 min. Freight train working was also of a high order and results for the period compared with those for previous years are shown below:—

AVERAGE MINUTES LATE ARRIVAL (WEEKDAYS)

	Four Weeks Ended							
	1945 Dec. 29	1946 May 18	1947 May 17	1948 May 15	1949 May 21	1950 May 20	1951 May 19	1952 May 17
Steam ...	8·06	1·60	1·32	0·58	0·55	0·90	0·76	0·47
Electric ...	4·97	1·23	1·37	0·53	0·52	0·69	0·68	0·41
Freight ...	25·6	11·3	5·1	1·7	2·0	2·9	2·4	1·5

Groundnut Transport Problem in Nigeria

CHIEF BODE THOMAS, Nigerian Minister of Transport, has defended the Nigerian Railway against criticisms of slowness in moving the record groundnut crop. In the past eight months, he said, it moved 6,000 tons of groundnuts a week and would be able to move 10,000 when seven new locomotives had been delivered this month. He gave the number of locomotives in workshops for repairs as the excessively high one of 38 per cent., and blamed the delay in the supply of new locomotives and spares from Britain. The real cause, to which the Minister apparently did not refer, seems to be indifferent workshops' output and worse shed maintenance, to which the General Manager alluded in his last report, summarised in our July 11 issue, where he mentioned the figure of 9,908 miles per engine failure. This is a reflection on the attitude of a section of the workshops and shed staff. Of 838 locomotive failures in a year, more than 300 are shown to be caused by faulty work in sheds and inspection and at least 180 by bad driving. In assessing the operating difficulties entailed by moving the groundnuts, it must be borne in mind that they must be carried some 700 miles, over a single line, which is already bearing an increasing import and internal traffic.

Unusual Cause of Derailment

LT.-COLONEL G. R. S. WILSON'S report on the derailment near Weedon on September 21, 1951, is summarised on page 77. We have already made brief reference to it. The case was very unusual and we are unable to recall another quite like it. Unfortunately the results were particularly severe and 15 deaths and many serious injuries have to be deplored. It was found that the leading bogie axleboxes of the engine were tight in the horn guides and when raised were unable to descend again. The danger of a wheel crossing the rail had thus been present throughout the journey and finally became a reality as the train, travelling at high speed on flat-bottom track, was leaving a curve preceding the straight track through Stowe Hill tunnel. The engineman failed to notice that anything was wrong but when bull-head track was reached serious damage was set up and they had barely time to do anything before the complete wreck occurred. Colonel Wilson considers that supervision over the fitters responsible for changing axles over had not been what such work requires, and that if the practice is to continue improved arrangements ought to be introduced.

Throwing Messages from Trains

SOME comment has been aroused by the fact brought out in Colonel R. J. Walker's investigation into the Huntingdon train fire, referred to in our issue of June 27, that the guard, wishing to throw out a note asking for his train to be stopped specially at Peterborough, wasted valuable time searching for something with which to weight it sufficiently. He failed to do so, indeed, and threw the note out without any weight; it was not found until the following day. It seems to us that it would be a simple matter to provide guards with weighted envelopes of reasonable size and strong make, distinctively marked—perhaps by being coloured in brilliantly contrasting stripes—so as to attract attention readily. When seen by anyone along the line, therefore, whatever his capacity, such an envelope would be recognised as containing a message of immediate importance which it would be his duty to deal with in such manner as the circumstances required.

Loudspeakers in Rolling Stock

IN some Continental countries loudspeakers have become a common feature of equipment in coaches likely to be used frequently for party and excursion travel. Various installations are in use in this country, such as those in the "Golden Arrow" and "Brighton Belle," but the principle of the running commentary on the passing scene, or the musical accompaniment to travel, has not been established. In general the loudspeakers are employed for purely practical purposes, which are most numerous in boat trains, where passengers have formalities to observe and documents to produce at the ports. Many of the instructions required are stereotyped, so advantage has been taken of developments in recording and reproduction methods in equipping the "Hook Continental" of the Eastern Region with a magnetic tape apparatus for broadcasting previously recorded announcements through the train. The recorded broadcasts, in various languages, advise passengers on the completion of embarkation cards and help them to understand immigration, passport and Customs formalities. "Live" broadcasts from a microphone can be interpolated when necessary. This is the first full installation of its kind in a British main-line train, and follows successful experience with similar equipment at Parkeston Quay.

Gas-Generator Locomotive

WHAT is believed to be only the second gas-generator turbine locomotive to run, and the first of the free-piston type, is now being given preliminary trips on the French National Railways. The principle of the gas-generator locomotive is that a diesel engine in the casing is run simply to provide exhaust gas. It is not mechanically connected to anything except its own scavenging compressor, which absorbs its power. The exhaust gas from it is led to a gas turbine which it drives, and it is this prime mover that drives the wheels—through hydraulic transmission as in the original Swedish locomotive of 1933-35, or through mechanical transmission as in this new Sigma-Renault locomotive in France and in the second Swedish locomotive now building, or by electrical means as in the locomotive which Lima-Hamilton was building before its merger with the Baldwin interests. The actual means for producing the gas can vary. Götaverken 17-19 years ago used an ordinary two-stroke diesel engine with a reciprocating scavenging pump; Sulzer, in stationary test results, got to an advanced stage in power production with a highly-pressure-charged two-stroke opposed-piston engine as the generator. But Sigma-Renault and Lima-Hamilton use the Pescara free-piston engine as the generator, a simplification in that one of the two cylinders (in the French locomotive), or one half of the cylinders, is used as the air compressor. This is claimed to give substantially higher

overall thermal efficiency, and so reduced fuel consumption, compared with the conventional gas turbine locomotive.

Disc Brakes

THE disc brake for passenger coaching stock, especially coaches used in high-speed trains, is making considerable headway in the United States; up to the present time it has been applied to over 550 coaches. It is claimed that, as compared with ordinary air-brakes, applied through the medium of brake rigging and brake-shoes acting on wheel treads, the disc brake can save $1,000 per annum and even more in the maintenance of a single car, not to mention nearly a ton in weight. Another claim made for the disc brake is that no other brake is capable of full utilisation of the rail adhesion available at high speeds, when exceptionally rapid deceleration is needed in an emergency stop. One indisputable advantage of disc braking is that it eliminates the overheating of tyres when continuous application of brakes is necessary on long descending gradients; on some U.S.A. railways using disc brakes the life of wheels between tyre turning has been increased by as much as 70 per cent., and thermal cracks in tyres, due to overheating, have been eliminated.

Mechanisation Cheapens Embankment Building

RADICAL changes are taking place in the relation between the costs of different types of railway construction as the result of the introduction of modern earth-moving machinery. Recently the Spokane, Portland & Seattle Railroad of the U.S.A. (owned jointly by the Great Northern and Northern Pacific) had to face the replacement of five timber trestle viaducts on its Kearsey branch; they ranged in length from 480 to 924 ft. and in height from 110 to 165 ft. To have replaced these structures in timber would have cost $950,000; in the event, it was decided to replace them by embankments, which, even though they entailed the excavation and tipping of 831,000 cu. yd. of material, actually cost no more than $700,000, so economising $250,000, eliminating a considerable fire hazard, and paving the way for considerably lower maintenance costs in future. Fourteen culverts, with a total length of 3,604 ft., were included in the new construction. Material was excavated from cuttings and borrow pits by bulldozers, and carryalls and dump trucks of high capacity shared in the work. The weight of the earth-moving equipment and the trucks was used to compact the new embankments, of which the biggest has a height of no less than 191 ft.

The 2-6-0 Locomotive

SINCE Churchward's well-known "43XX" class of Mogul appeared in 1911, engines of that wheel arrangement have been a power in the land. Many examples had run before that on the G.W.R. itself; and on the Midland, Great Northern and Great Central, all of which had short-lived American-built engines. Further back still were the Adams-Bromley type on the Great Eastern, and two engines on the Midland & South Western Junction Railway. But it was Churchward's design that brought power into the picture, and this aspect eventually was developed to the greatest degree by Gresley with G.N.R. No. 1000 and its descendants on the L.N.E.R. Modern types in Britain have not, however, been evolved to get the highest power from the wheel arrangement, but rather to get low or medium power efficiently within restricted axle load and bridge loading number. Leading examples have been the Ivatt designs, disappointing when fitted with double exhaust, and even with the original single blast pipe not capable of evaporating more than about 9,000 lb. of steam an hour. But with exhaust as recently modified, tests undertaken by British Railways with a Class 4 engine No. 43094 (16¼ tons axle load, 59 tons engine weight) showed that 1,000 d.b.h.p. could be exerted at 30 m.p.h. and 2·65 lb. of coal per d.b.h.p. hr. Most economical coal consumption, 2·0 lb. per d.b.h.p. hr., seemed to be attained at 500/550 d.b.h.p. at 20 m.p.h.

The Transport Bill

MOST of the provisions of the Transport Bill, read in the House of Commons last week and due for reintroduction and second reading in the new session of Parliament in the autumn, were foreshadowed in the White Paper on transport. This stated that the new organisation of the railways was not to be set out in detail in the Bill, but to be dealt with in a scheme to be submitted to the Minister of Transport by the British Transport Commission. A summary of the Bill is given elsewhere in this issue. One important point is made clear; the railways are to be allowed not only to retain their cartage and delivery services but also to carry on business as road hauliers through one or more subsidiary companies of the Commission, to be set up for this purpose. This denotes some relaxation, envisaged in an editorial article in our issue of June 27, of the Government attitude, previously opposed to the transfer of important assets from one nationalised industry to another. The railways are given the powers which they had before nationalisation, but they are not to be allowed in the first instance to possess more road haulage than they had at the time of nationalisation—a restriction imposed presumably for political reasons, without taking into account the very considerable expansion since 1947 of the concerns taken over from the railways, which at least should receive back concerns not reduced to their pre-nationalisation size. The Commission's haulage subsidiaries, however, may acquire further vehicles later, subject to obtaining licences. These and the ability to raise railway charges by 10 per cent. to meet increased costs without application to the Transport Tribunal are the most concrete proposals affecting railways in the Bill. The provision for formation of subsidiary road haulage companies is welcome in that restoration of road haulage business to the railways is conducive to efficiency and an incentive for the railways at area level to think in terms of transport as a whole.

The Railway Executive is to be abolished; this, and the reorganisation of the railways by areas, with greater autonomy than now enjoyed by the Regions and autonomy specified for Scotland (already a Region in the existing organisation), must be provided for in the proposals submitted by the B.T.C. to the Minister, which are the crux of the matter. The Bill rightly leaves wide discretion to the Commission in making these proposals. No doubt British Railways officers and others actively engaged in the operation of transport will be consulted. The avowed purpose of the Bill is to ensure not only decentralisation, but also flexibility.

The new area basis of railway management must involve a considerable degree of decentralisation, which is to be welcomed, especially if greater authority is conferred on the area managements; but if much of the work of standardisation and unification with the resultant economies achieved by the Railway Executive since 1947 is not to be undone, a top layer of railway management must remain in, for example, locomotive design, even although it will be part of the Commission, which is to exercise a general authority in finance, charges, and broad policy. A subsection of the Bill, the purport of which is not clear, lays down that a duty of the Chairman of the B.T.C. is to keep the Minister informed on matters material to be known for the purpose of enabling the Minister to discharge his duty, and on matters "which the Minister might reasonably wish to consider" so as to determine what action to take in the exercise of his powers in relation to the Commission. Abolition of the name "Railway Executive" will not abolish the necessity for some body to fulfil some at least of the functions of that Executive, even although much work now done by the Railway Executive could be performed by bodies akin to the inter-railway committees of prewar days.

Under the Transport Act, 1947, the Minister may make provision for the number and names of the Executives, after consultation with the B.T.C.; this would seem to allow of the dissolution of an Executive by Ministerial order. The new Bill, however, expressly states that the Minister may also provide "that there shall be no Execu-

XUM

tives"—an extraordinary provision to include in a Government Bill. As to the future of the other Executives, the Minister stated in the House of Commons last week that the Road Passenger Executive would cease to exist on September 30 next, but that he was offering to full-time Members of the other Executives whose present appointments expire shortly, continuance of their service for a further year. The Road Haulage Executive is bound eventually to be wound up, and dissolution is to be hoped for of the Hotels Executive; the functions of the latter, as we have suggested, particularly as regards restaurant and buffet cars and refreshment rooms, could be transferred with advantage to the railways. The same applies to the former railway-owned docks, which should be returned without delay to the railway management which functioned so well before nationalisation.

Sale of the Road Haulage Executive undertaking was foretold in the White Paper. The Bill provides that sale shall be in "transport units" of not more than 50 vehicles or 200 tons unladen weight; operation of road transport in small units is preferred by the Government for political reasons, but as the matter might have worked out satisfactorily in conditions of free enterprise and competition, it is hard to see the reason for this arbitrary stipulation, except, perhaps as an attempt to placate the smaller road haulier.

The dangers remain of rock-bottom purchase prices for British Road Services vehicles (there is no reserve price) of a Disposals Brand composed partly of representatives of the road haulage industry selling the assets of the undertaking whilst the Road Haulage Executive still is responsible for running it, and of the Commission being left with a rump of unremunerative traffics and unwanted assets. Of the levy on road vehicles to amortise the loss to the Commission arising from the sale and any consequent transfer of traffic from the railways to the roads, we have said before that it is unsound and little more than the thin end of the subsidy wedge. The withdrawal from the Commission of its power to acquire road passenger transport undertakings and the subjection to Ministerial control of acquisition and retention by the Commission of controlling interests in bus undertakings were to be expected, as was the scrapping of road passenger transport area schemes.

The authority for which the new Bill provides, for the B.T.C. to raise its charges generally by up to 10 per cent. to cover increased costs, without reference to the Transport Tribunal, is a step towards simplification of the cumbersome procedure governing railway charges; but it does not go far enough. The railways will be left restricted in fixing and altering charges whilst freight haulage will be free. The road haulier will be free to chose his traffic and charge what he wishes, whereas railway freight charges still will be subject to approval by the Tribunal, with resultant difficulty in reasonably quick adjustments apart from the concession referred to above, and must be on a national basis. In passenger transport also the railways and London Transport still will have to submit their fares for approval on a national basis, unlike the provincial road transport undertakings in which the piecemeal raising of fares is not attended by so much publicity.

The Bill provides for freight charges schemes to embrace railway and inland water transport, besides London Transport and other activities of the Commission; with road haulage not included, the freight charges schemes must lose much of their value. It is difficult to see why, if free competition is the aim of the Bill, the railways and other carrying activities which are to be left to the Commission should be thus restricted. In fact, the Bill shows no signs of due consideration of the question of fair competition between road and rail, and seems as indefinite and hastily drafted in this as in other respects. It has aroused the opposition of bodies often with widely divergent interests, and in whatever form it eventually emerges after its passage through Parliament, there are bound to be many amendments after, it is to be hoped, wiser counsels prevail in debate.

B.T.C. Report for 1951

IN 1951 the British Transport Commission reached financial equilibrium in its undertaking and showed a revenue surplus of £2·9 million. Details were given in the accounts already published, reviewed in our June 20 issue. The Commission's report, published on July 11, speaks of the future in conditional terms in the light of the proposals for reorganisation of transport now embodied in the Transport Bill. In Lord Hurcomb's view, expressed in his letter submitting the report to the Minister, the virtual completion of the acquisition of long-distance haulage undertakings in 1951 was a step on the way to other important developments in the process of integrating the different forms of transport, from which large economies would eventually result. If the Commission were able to proceed with its plans for the integrated development of its services under a suitably revised organisation of its administration, and if it was permitted to adjust without undue delays the level of its charges to meet the costs of the various services provided, it would look forward with some confidence to the maintenance of the equilibrium achieved. The report expresses the Commission's deep concern at the addition to its labour costs, which represent some 60 per cent. of total working expenses, of a sum of such magnitude as occurred during 1951 (equivalent to about £46 million in a full year), and says it is not possible to meet such heavy additional costs without substantial increased charges. Hopes of a continued balance in the accounts, says the report, however, are far from being based on a transfer to the customer of the ever-rising costs. The total rise in fares and charges since pre-war days (93 per cent. on British Railways, and 43 per cent. on London Transport up to the end of 1951) has been kept to a much lower level than the total rise in the prices of materials and wages (150 per cent. for British Railways and 120 per cent. for London Transport). This is explained partly by substantial economies which have been obtained and considerable improvements in efficiency.

Great potential economies are foreseen in railway freight working, especially if adequate capital and physical resources are forthcoming. Savings of millions of pounds a year are estimated from an improvement in freight train speeds by a general introduction of fully-braked wagons. Progress in this respect was made in 1951, when the number of fully-braked express freight trains per week was 918, with a weekly mileage of 118,000; comparison is made with corresponding figures for 1938, when 511 such trains ran 91,000 miles a week. Considering freight trains as a whole, the tightening of schedules continued and over 500 individual services were speeded up. Other directions in which a way to economies is seen are the modernisation and re-siting of marshalling yards; and new methods of loading, discharging, and transhipment between rail and road vehicles. In another direction, the report alludes to the effect on the potential cost of freight services of combining the various forms of transport in an economic way, giving as an example the handling of parcels and smalls traffic in containers with a rail haul for the major part of the journey. Principal services of this type now operating in collaboration with British Road Services are between London and Manchester, with a full trainload in each direction daily, and between London and Glasgow.

Proposals were made to the trade unions for a common machinery of negotiation and common standard rates of pay for staff transferred between the Railway and Road Haulage Executives in pursuance of schemes for dividing traffic between the two mediums of transport. At the end of the year the unions concerned were examining the basis of representation within the suggested machinery of negotiation, and progress with the agreement itself waits upon this matter being resolved. The Road Haulage Executive has been undertaken some collection, delivery, and trunk services of the types instituted and operated by railways before nationalisation in connection with zonal schemes for expediting "smalls" traffic. At the end of the year 215 schemes of the 250 scheduled were operating, 26 were

partly operative, and 9 were under investigation. Effective use of these facilities has been promoted by the issue of a loading instruction book, a type of document found to be an essential adjunct by the former Great Western Railway in its rapid development of various zonal schemes since the war.

Another economy measure pursued as a combined rail and road operation during the year has been the closing to traffic of branch lines where limited public need can be met by road services. As a result 746 route-miles were authorised to be closed for passenger and/or freight services, compared with 498 in the three previous years, making a total of 1,244 route-miles authorised for closing. In addition, passenger and/or freight facilities have to date been withdrawn at 234 stations on lines which have otherwise remained open for traffic. Before authorising the withdrawal of rail facilities the Commission satisfies itself that alternative road services are available and that the local authorities have been consulted. With the setting-up of Area Transport Consultative Committees, all important proposals are now referred to these bodies for their views. Considerable train-mileage was saved on British Railways by the withdrawal of 2,011 passenger trains where traffic was too light to justify continuance.

Passenger journeys rose by some 46 million to a total of 7,848 million on all the Commission's services, the increase being mainly in shorter-distance travel on the roads. Estimated passenger-miles on British Railways in 1951 were 20,793, compared with 20,177, and average takings per journey decreased slightly due chiefly to the granting of concession fares on a wider scale and to shifts towards cheaper categories of fare. During 1951, 6,644,000 passengers travelled in special excursion trains and over 7,000,000 on half-day and evening excursions by ordinary trains. Generally, says the report, the results of excursion traffic were most successful, more passengers being carried in fewer trains.

With regard to new works and construction, scarcity of steel and raw materials were a limiting factor on railway activities. Permanent way renewals attained 93·5 per cent. of the programme set. Repainting of some 2,800 stations out of 6,200 in four years (560 were dealt with in 1951) is too low a rate for normal maintenance standards and is but one example of how present conditions cause assets to deteriorate. New locomotives built and put into service numbered 317, against a budgeted 424; coach construction was in arrears on its authorised programme at the end of the year by 1,082 passenger carriages and 405 non-passenger vehicles, the numbers of each category actually built being 1,561 and 362. The number of new wagons built in 1951 was 36,910, this total being less by 10,000 than the workshop capacity of the railways and the trade, the loss having been entirely due to shortage of steel. In these conditions the progressive reduction in wagons out of service for repair has been of great value in permitting the railways to work with a reduced stock. Last year the percentages of total stock under or waiting repair ranged from a minimum of 6·28 to a maximum of 8·80, the nearest approach so far to the target of 5·5 per cent.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Denationalising Railways

July 11

SIR,—With regard to the return of road haulage to private enterprise, why not do the same with the railways?

I suggest that six new companies should be formed—Southern, Great Western, Great Eastern, North Eastern, London & North Western, and Caledonian Railways. The six existing regions should be handed over to these companies, free of all restrictions, without conditions, on indefinite lease, in return for a share of whatever profits they might make.

The railways would still be nominally under public ownership, whilst operating as private concerns, with the stimulating spirit of competition, and a free hand to do whatever they wished, to attract traffic, and earn money. There is a precedent for this in the tramways owned by the Middlesex County Council, which were leased to and efficiently operated by a private company, Metropolitan Electric Tramways Limited.

Yours faithfully,

L. LAWRENCE

121, Grange Road, Purley Oaks, Surrey

Southport Railway Connections

July 8

SIR,—The impending withdrawal of the remaining goods traffic from the former C.L.C. line from Aintree to Southport Lord Street prompts the suggestion that instead of dismantling the line, it should be adapted as a through route to Southport Chapel Street, and become to Southport what the Marton line is to Blackpool. A spur would be required where the C.L.C. crosses the L. & Y. route south of Ainsdale, or it might be possible further north close to Birkdale. At the southern end a junction would be required at Aintree to allow trains to run from Sefton Arms on to the C.L.C., close to the existing junction which faces the other way.

Better still, if it could be made practical, would be a junction between the C.L.C. goods branch to Huskisson and the L. & Y. north of Sandhills. In this way the C.L.C. line would become a direct through and alternative route from Liverpool as well as Manchester to Southport, without the detour *via* Hunts Cross. The need for retaining the C.L.C. line in use is emphasised by the routing this summer of trains from Stockport *via* the C.L.C. to Aintree Central, and then *via* Burscough Junction to Southport Chapel Street, adding 4 miles to the journey.

Southport Lord Street Station is adjacent to a bus station. Sale of the station buildings and land together with the approach road from Birkdale Palace to the local authority might provide funds for construction of the necessary new spurs.

Yours faithfully,

R. G. R. CALVERT

10, Bolton Avenue, Windsor

Details of Locomotive Tests

July 10

SIR,—The decision by British Railways to make available copies of bulletins giving the results of various locomotive tests reflected, as with publication of details of the 1948 exchanges, a welcome readiness to place before the public the facts behind decisions of policy and make them available to students. Bearing this decision in mind, one wonders if it would now be possible to make public greater details of the experimental "Leader" class tank engines and the trials conducted with them. Very little has so far been published on this subject and interest in this highly unusual design has not abated, though some time has elapsed since the decision to abandon the experiment. The possibility of destruction of information on this subject, as a result of the impending changes in British Railways, makes an appeal for putting these trials on record all the more urgent.

Yours faithfully,

K. S. DOBSON

New Malden, Surrey

THE SCRAP HEAP

True to Time

This column has always believed that there ought to be a close degree of correspondence between *Bradshaw* and trains, and it is encouraging to see that timetables are no longer such theoretical works as they once were. It will not be a bad thing if we get into the habit of expecting trains to arrive when they are supposed to arrive. Punctuality is no mean virtue in a railway system.—*From "The Scotsman."*

British Locomotive in Netherlands

We illustrate herewith the plaque presented to Mr. C. K. Bird, Chief Regional Officer, Eastern Region, by Mr. F. Q. den Hollander, General Manager

of the Netherlands Railways, to commemorate the loan to the Netherlands system of Eastern Region Bo-Bo electric locomotive No. 26000. The presentation ceremony took place at Liverpool Street Station on June 30 (see our July 4 and July 11 issues). The plaque, approximately 2 ft. in diameter, is coloured blue and was made by a famous factory which is at Makkum, Friesland.

Weeds Across the Border

The weeds of Ireland are uncommonly dangerous; at any moment they may precipitate a border incident. They infest the track of the Great Northern Railway of Ireland. The Customs authorities of Northern Ireland insist that no weed-killer made in the South shall be used on track in Northern territory. The Customs of the Republic adopt a similar attitude. Unfortunately the railway track goes in and out of Northern and Southern territory. . . . When the weed-killing train comes to Kesh, on the border, the spray must be turned off and the mixture still in the tank emptied and deposited. A mixture prepared in the Republic is then poured in and used until after Pettigo, five miles on, has been passed and Northern territory is once more approached. At this point the mixture is again decanted and a Northern mixture put in, which in turn can only be used as far as Ballyshannon, sixteen miles further.

Sometimes the train sprays the Northern stretches of the track on one journey and the Southern stretches on the return. As soon as a border station is reached the sprays are turned off and the men who work them get out and race along beside the train, thereby making manifest to all suspicious persons that the alien mixture is not being used where it ought not to be used.—*From "The Manchester Guardian."*

Notice to Quit

The virtue of nationalised transport, as the Socialists presented it, was to be economy. Instead, we have higher fares, dearer freight, multiplied officials.

Mr. Churchill has told how, to administer 41,000 vehicles on the roads, 12,000 men sit at desks.

But don't think too harshly of Lord Hurcomb. After all, his Transport Commission is under Government notice to quit. And what departing tenant ever had a bouquet for the bailiff?—*From the "Sunday Express."*

Stockholders' Special

For the annual meeting of the New York Central System at Albany, N.Y., every year a special train is run by the N.Y.C. from New York to Albany and back, 142 miles each way, to carry stockholders to and from the meeting (like the specials run from St. Pancras to Derby and back for the annual meeting of the former Midland Railway company).

This year the N.Y.C. attached to the Albany special a "question car," in which Mr. Gustav Metzman, the N.Y.C. President, rode with other chief executives, so that they were available throughout both journeys to answer the questions of stockholders who might be hesitant about standing up at the meeting to voice their queries. This innovation appears to have been greatly appreciated.

Boat Race

(*Two boat trains between Waterloo and the Southampton Ocean Terminal have been named the "Cunarder" and the "Statesman."*)

The Lion, with majestic scorn,
Once battled with the Unicorn,
(I think, about a crown),
Whilst Tweedledum and Tweedle-dee,
Having agreed to disagree,
Strove manfully and mightily
To do each other down.

Now "Statesman" with "Cunarder" tries
To win the North Atlantic prize—
The railways give a cheer;
The R.E. rubs its hands and gloats
And says: "Thar's gold in them thar boats,
"Go to it, gals—we'll hold your coats,
"It's good for trade, that's clear."

When rivalry like this runs high
It banishes despondency
And puts gloom on the spot.
Rev up the engines once again
For the Blue Riband of the main—
So long as they link up by train
We'll back the jolly lot!

A. B.

Combined Rail and Road Signalling

Photo] [*C. J. Housego*

New Zealand Government Railways 2-6-2 *goods locomotive waiting at traffic lights in Quay Street, Auckland. The locomotive is running on the double track line between Auckland goods yard and the overseas shipping wharves*

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

NEW ZEALAND

Edgecumbe-Murupara Line

Exceptionally rapid progress has been made with the formation of the 38-mile line from Edgecumbe to Murupara, which will serve the great pulp and paper undertaking at Murupara. In the first six months to the end of May, about 1,300,000 cu. yd. of earth had been removed for the roadbed. By maintaining an average of 200,000 cu. yd. a month, the earth-moving contractors have probably beaten all New Zealand records.

UNITED STATES

Pacific Coast Railcars

The Atchison, Topeka & Santa Fe Railway has augmented its express service between Los Angeles and San Diego by the addition of a pair of Budd diesel-hydraulic railcars, operating in multiple. The previous service, still unaltered, was maintained by two sets of streamline cars, with diesel power, each of which made two double trips daily over this 128-mile route, with three intermediate stops, on a timing of 2¼ hr. each way. All are known as the "San Diegan."

The Budd cars also are making two double trips daily, with a total mileage of 512; two of these trips, for the benefit of season ticket holders, are non-stop in a time of 2¼ hr., the fastest yet in operation between Los Angeles and San Diego, a route with a number of severe speed restrictions. On the non-stop trips a seat charge of 50 cents is levied; the two other railcar runs are of the "local-express" type, with intermediate stops. These are the first Budd "RDC" railcars to work in Southern California.

IRELAND

New Pier at Dun Laoghaire

On June 26, a new double-deck structure on the east side of Dun Laoghaire pier was put into operation for the first time, when 950 passengers joined the outgoing vessel *Cambria*. Some details of the new structure were given in our July 4 issue.

Before the departure of the ship there was a reception at which Mr. J. A. Nugent, Chairman of the Irish Tourist Board, paid tribute to the work of Mr. G. B. Gray, General Agent for British Railways in Ireland, and thanked him for his help and co-operation with the Irish Tourist Board. Mr. P. Patterson, Irish Traffic Superintendent of British Railways, said he hoped to discuss possible further co-operation between the Irish Tourist Board and British Railways, specially in connection with the provision of facilities for landing cars at Dun Laoghaire.

Under the new arrangements it is expected that by the end of July it will be possible to clear eight vessels, carrying more than 10,000 passengers a day, at Dun Laoghaire.

FRANCE

Transport Policy

Some indication of the Government's intentions regarding the S.N.C.F. was given at a press conference held recently by Monsieur Morice, the Minister of Public Works & Transport. The Minister revealed that important changes in the agreement between the S.N.C.F. and the State had been recommended by his department, and that these were being studied by the Minister of Finance. It is believed that the contemplated measures include alterations in the accounting procedure, which will effect a reduction in the visible deficit of the S.N.C.F.

Supreme Transport Council

In the April 25 issue there was a reference to possible changes in the composition and functions of the Supreme Transport Council, set up under the Rail-Road Co-ordination Law of 1949 to prepare schemes for co-ordination of transport.

A ministerial decree of May 31 reduced the total membership of the Council from 69 to 37 members; the new total includes representatives of public administration, branches of the transport industry, trade unions, transport users, trade and parliament. The parliamentary representation has been reduced from 15 to 7 members.

In place of the seven permanent committees of the former council there are now only a general assembly, a surface transport committee, and a disputes committee. Both the assembly and the surface transport committee can institute, at their discretion, special study committees to prepare reports on specific questions.

Coal Handling at Orléans

A special yard for the unloading and delivery of coal has recently been opened at Orléans. It covers an area of nearly 5 acres, has storage facilities for 40,000 *tonnes* of coal and is linked to Orléans-Les Aubrais station by a private siding capable of receiving coal trains of up to 1,600 gross *tonnes*.

The yard is equipped with mechanical handling devices, and hoppers to enable the coal to be put into sacks on the spot. Wholesalers in Orléans are responsible for the scheme, which is also likely to be of benefit to the S.N.C.F. in obviating the shunting of individual wagons and to the coal industry in general by reason of the extensive storage facilities.

Classification of Branch Lines

In April, the Council of the Republic (the Upper House) passed a resolution calling on the Assembly to promote reforms in the operation by the S.N.C.F. of lines of secondary importance. It was recommended that such lines should be classified according to profit or loss of operation, and that all possible remedies should be studied where deficits are occurring. Where deficits are considered inevitable, it is suggested that the S.N.C.F. should be relieved of the responsibility of operating the lines, and that they should be closed or handed over to the appropriate municipal authorities. There is no indication so far of the Government reaction to these proposals.

WESTERN GERMANY

Line through Soviet Zone Cut

Branching at Pressig-Rothenkirchen from the Nuremberg-Probstzella-Leipzig main line, a secondary standard-gauge line, 10½ miles long, leads north-west to Tettau, crossing a tongue of East German territory between Heinersdorf and Sattelgrund, about 6¾ miles. Working of trains through this territory has been regulated by agreement, but early in June the East German authorities issued an order stopping this transit traffic.

To maintain contact with Tettau, the centre of an important glass and china industry, now virtually cut off from the rest of Western Germany, the building of the road avoiding East German territory, which has been in progress for some time, has been accelerated.

Pressig-Rothenkirchen is 14¾ miles south of Falkenstein, the last station in Western Germany on the Nuremberg-Leipzig main line. The frontier station, Probstzella, is in Eastern Germany.

Hamburg Elevated Railway

The annual report for 1951 of the municipally-owned Hamburg Elevated Railway (Hamburger Hochbahn) shows that the fare increases which came into force in October, 1950, resulted in a surplus for the year of DM. 397,608 compared with a deficit of DM. 375,178 on the previous year's working. The standard fare on the railway is now 25 Pfg.

Rising costs may render a further fare increase necessary in the near future, but important economies have been achieved by the withdrawal of train guards (following the installation of additional safety and dispatching devices) and by the substitution of turnstiles for ticket collection at station exits.

The Rothenburgsort branch has not been re-established since the war, and the total length of the city system is therefore unchanged at 58·6 km., or 93 per cent. of the pre-war figure, with a further 63 km. of state-owned line leased to the Hochbahn outside the city area. Sixteen new cars have been placed in service during the year, bringing the total passenger stock to 368 cars (of which all but two are motored); 31 further cars are on order.

Transport Bill Provisions

Plan to be submitted for reorganisation of railways: sale of British Road Services undertaking: B.T.C. empowered to set up road haulage companies: dissolution of Road Passenger Executive

The main purpose of the Transport Bill, introduced by Mr. Alan Lennox-Boyd, Minister of Transport, and read for the first time in the House of Commons on July 8, is stated by the Government to be provision of disposal of the British Transport Commission road haulage property, for a levy on certain goods vehicles and tractors used on roads, and for the reorganisation of the railways. The Bill also provides for the modification of the powers, duties, and composition of the B.T.C., including its powers in relation to charges.

B.T.C. Road Haulage Companies

The existing B.T.C. road haulage undertaking, British Road Services, under the control of the Road Haulage Executive, comprising some 40,000 vehicles with stores, depots, and so on, is to be disposed of to private enterprise through a Road Haulage Disposal Board. The Commission, however, will be able to retain under company ownership and management so much of it as may be equivalent to the interest of the railway companies in road haulage companies before nationalisation.

For this last purpose, Clause 4 provides that the Commission may, within six months from the passing of the Act or such longer period as the Minister may allow, "cause to be incorporated under the Companies Act, 1948, one or more companies which shall be under their control and the powers of which shall include power to carry on business as carriers of goods by road in Great Britain." Where either (*a*) an invitation to tender for the purchase of specified property has been issued under this section; or (*b*) the Disposal Board has approved the issue by the Commission of such an invitation; or (*c*) the Board has informed the Commission that it would be prepared to approve the issue of such an invitation, the Commission may, if the Minister of Transport consents, make over to any company incorporated under this section all the property and connected rights and obligations, if any, which the purchaser would have obtained under a purchase resulting from the invitation.

Sale of R.H.E. Undertaking

For the purposes of sale, the Road Haulage Executive undertaking will be divided up into sections which can be operated as separate haulage undertakings, called "transport units" in the Bill. Due account will be taken of the proper place of the small haulier in the transport system and the Minister's approval will be required to the disposal of a transport unit comprising vehicles more than 50 in number or more than 200 tons in unladen weight. Single vehicles may be disposed of as transport units. Vehicles comprised in transport units will carry with them the right to a five-year "A" licence free of mileage restrictions. The Minister will be able to authorise or require disposal of vehicles or other property otherwise than as part of a transport unit, so as to dispose of property which may not be suitable for inclusion in a transport unit.

Road Haulage Disposal Board

The Road Haulage Disposal Board is to consist of six persons to be appointed by the Minister. Apart from the Chairman and Deputy Chairman one person is to be appointed from among nominees of the Commission, and the remaining three after consultation with trade and industry, holders of "A" or "B" licences, and holders of "C" licences respectively. The Commission will be required to consult with the Board. The approval of the Board will be required to invitations to tender for individual transport units, and to the acceptance of tenders.

Railways to Retain C. & D. Services

The Commission is not required to dispose of the road haulage vehicles operated by the railways as part of their collection and delivery services.

The Commission will have the right to "A" licences free from mileage restriction for all goods vehicles in its possession at the passing of the Act, but for any further licences it will have to apply to the licensing authorities in the ordinary way under the Road & Rail Traffic Act, 1933 (Clause 6).

Repeal of Twenty-Five-Mile Limit

The 25-mile limit will cease to have effect, from a day to be appointed by the Minister. The date is not to be fixed until the Minister is satisfied that it is not reasonably practicable to dispose of further transport units (Clause 7). If the limit were removed earlier the privilege which purchasers of transport units obtain of an "A" licence free from the limit would be of less value and the price which could be expected would be correspondingly less. Also, if it were removed earlier, hauliers who normally undertake short-distance haulage only might attempt to enter the long-distance field with a consequent disturbance to the normal pattern of transport.

Applicants for licences under the Road & Rail Traffic Act, 1933, will still have to demonstrate a public need for the services they propose to provide; but where an objector alleges that suitable transport facilities already exist the onus of establishing this will rest upon him and it will not be necessary as it is at present for the applicant to disprove it. In considering whether existing services are suitable the licensing authority is to have regard to the relative efficiency, and adequacy of existing facilities and of those which the applicant would provide (Clause 8 (3)).

Licensing authorities are to give special consideration to applications for licences where goods are to be carried partly by road and partly by rail without the need for unloading and reloading. This is intended to facilitate the use of containers or other means of using both road and rail for a through journey without the necessity for handling the goods themselves *en route* (Clause 8(2)).

Scope of Transport Levy

The transport levy, for which Clause 10 provides, is to be charged annually on goods vehicles other than those not exceeding one ton in unladen weight. As indicated in the White Paper, the initial yield of the levy is to be some £4 million which will entail a payment of 13s. 6d. for each quarter-of-a-ton of unladen weight. There will be an extra charge for vehicles used to draw trailers and a separate scale for tractors. There are some 340,000 goods vehicles which do not weigh more than one ton and which will therefore be exempt from the levy. Of the 560,000 remaining, 520,000 do not exceed four tons in weight unladen and will pay a levy ranging from £3 7s. 6d. to £10 16s.; the remaining 40,000 will pay more.

Purposes of Levy

The levy has two purposes: to reimburse the B.T.C. for any loss arising out of the disposal of its road haulage undertaking; and to make up to the Commission any loss of net revenue from overall transfer of traffic from rail to road and which cannot be avoided by economies consequential on the transfer.

It is pointed out by the Government that there is certain to be a loss on disposal if only because the compensation paid by the Commission in respect of the cessation of business of acquired haulage undertakings (estimated at some £30 million in total) cannot be fully recovered. There is also likely to be a loss of revenue to the Commission because of disturbance of its road haulage undertaking during disposal. When the amount of the loss arising out of disposai has been ascertained it will be amortised over a suitable period by equal annual instalments provided from the levy; the period is to be fixed according to the total amount involved, so as to avoid any excessive charge upon road transport.

Assessment of Loss to B.T.C.

The loss on disposal of the road haulage undertaking is to be provisionally estimated by the Minister not later than three months before the day appointed for the abolition of the 25-mile limit; he will then determine the period of amortisation. The amount of the loss will be met out of the levy by equal annual

instalments, the first of which will be payable to the Commission on January 1 following this appointed day (Clause 12(1)).

The first assessment of the average amount of loss of railway revenue due to transfer of traffic from rail to road is to be made as soon as possible after January 1, 1955, and the first payment becomes due to the Commission on July 1, 1955. A fresh assessment will be made at intervals of three years thereafter. Each assessment will govern the amount to be paid annually to the Commission for the subsequent three years (Clause 13(1) and (4)).

The assessment will be made by the Minister, based on an estimate made by the Members of the Transport Tribunal, who will have regard to evidence as to the extent of any general transfer of traffic from rail to road and will take into account matters such as the general level of production and trade, and volume of traffic carried by rail, and any changes in the number of licensed goods vehicles. They are to disregard any loss of net revenue which could have been avoided by economies consequent upon the transfer of traffic. If the Minister thinks that insufficient allowance has been made in this respect he may, after consultation with the members of the Tribunal, reduce the estimate; if he does so, he is to lay an explanatory statement before Parliament.

The levy will be collected through the existing machinery provided for collecting the licence duties under the Vehicles (Excise) Act, 1949, but the proceeds will be paid into a "Transport Fund" under the control and management of the Minister. The payments to the Commission for which the Bill provides are to be made out of this fund.

Railway Management Decentralised

In accordance with the intention of the Government to decentralise railway management by splitting British Railways into smaller entities with more independence than the present Regions enjoy, Clause 15 provides that, within twelve months from the passing of the Act or such longer period as the Minister may allow, the Commission is to submit to the Minister a scheme for the reorganisation of "that part of their undertaking which consists in the operation of the railways."

The scheme must provide "(*a*) for the abolition (if it has not already been abolished) of the Railway Executive; (*b*) for the setting up, for such areas as may be specified by or under the scheme, of such authorities as may be so specified; and (*c*) for the delegation to those authorities of such functions of the Commission relating to that part of their undertaking as may be so specified in relation to those authorities respectively."

The scheme is not required to apply to the London Underground. It may provide for regulating the relations of the authorities set up under the scheme with each other and with the Commission, and for giving the Commission powers of control over those authorities. The authorities may be individuals or bodies of persons.

Clause 15(7) provides that the scheme shall be such as will, in the opinion of the Commission or, as the case may be, of the Minister, reserve to the Commission general financial control and general control of the charges to be made for the services and facilities provided under the scheme.

Otherwise a very wide measure of discretion is given as to the contents of the scheme. The Minister may modify the scheme before approving it. His final approval is to be signified by an Order which will be subject to annulment in pursuance of a resolution of either House of Parliament (Clause 16 (4)). Special provision is made for Scotland, referred to below.

Greater Latitude as to Charges

Clauses 19-22 deal with charges. The Commission will still be required to submit charges schemes to the Transport Tribunal in respect of their principal activities (other than road haulage) as they are under the Transport Act, 1947, but the Bill provides for a greater latitude in the adjustment of charges so as to enable the railways to compete on fairer terms with road for goods traffic.

Under the 1947 Act the Transport Tribunal is empowered to require a scheme to provide for fixed charges, maximum charges, or standard charges, and to impose any conditions which it thinks fit in relation to charges.

Under the proposals in the Bill a charges scheme is not to provide for fixed or standard charges, but only for maximum charges (except in cases where the fixing of a maximum charge is not practicable). Within these maxima a scheme has to leave the charges to be made to the discretion of the Commission without the imposition of any conditions or limitations thereon other than conditions as to publication of charges (Clause 19 (2) (*d*)).

In order to provide reasonable protection to traders and to competitors with the Commission who could otherwise soon be put out of business if the Commission made uneconomic charges for the purpose, the Bill retains as respects charges for the carriage of goods (subject to the existing statutory provisions with regard to equality of charges and undue preference (Clause 20 (3) (*a*) and (*b*)), and enables competitors to complain to the Transport Tribunal on the ground that any such charge made by the Commission is at a rate which has been fixed with a view to eliminating competition and which, if continued, must result in a loss to the Commission (Clause 20 (2) (*b*)).

Provision is made for amendments of the Cheap Trains Act of 1883, which may result in increased charges for Services passenger traffic.

Interim Increases in Charges

If the Commission has to submit a scheme to the Transport Tribunal for an increase in charges because of a substantial increase in costs, the Commission may rapidly accumulate a substantial deficit while its case is being considered.

The Bill provides that the Commission may, in such circumstances, increase its charges by a flat percentage not exceeding 10 per cent. without having to obtain the prior sanction of the Tribunal (Clause 22 (1) and (2)). The Commission will be required to apply for a modification of its charges schemes through the normal procedure of the Transport Tribunal as soon as may be after such an increase is made. (Clause 22 (3)).

In London passenger fares, because of the number of small fares involved, it is provided that fractions of a penny up to and including ½d. are to be left out of account, and that fractions of more than ½d. are to be deemed to be one penny (Clause 22 (2), proviso (*a*)).

Road Passenger Transport

The Transport Act, 1947, provided for the submission to the Minister by the Commission of area road transport schemes which were intended to promote the co-ordination of the passenger transport services serving the area whether by road or by rail. The Bill provides for repeal of the clauses of the Act concerning such schemes.

Under the Transport Act the Commission is not required to obtain road service licences for any omnibus services which it operates. The very extensive interests in omnibus undertakings acquired by the Commission through the purchase of shares are still administered under a company structure and are accordingly subject to the licensing provisions of the Road Traffic Act, 1930. The Commission will still, however, have power to operate omnibuses directly and if it wishes to do so it will have to apply for licences like any other operator. (Clause 17 (2)).

These provisions will not apply to the omnibus services of the London Transport Executive which have been exempt from this necessity since the London Passenger Transport Board was set up under the London Passenger Transport Act, 1933.

The Commission is not to be allowed to run contract carriages on roads outside a radius of ten miles or in the County of Kent five miles from any point on the boundary of the London Passenger Transport area. (Clause 17 sub-sections (3) and (4) (*a*)).

The B.T.C. is not to have power to acquire further omnibus undertakings or, without the consent of the Minister, any securities the acquisition of which would bring such undertakings under the control of the Commission. (Clause 17 (5)). Where the Commission already controls an omnibus undertaking through shareholding, the company structure of the undertaking is to be maintained. (Clause 17 (7)).

The Minister is further empowered, where the Commission exercise control of an omnibus undertaking through shareholding, to require the Commission to divest itself of this control by the

disposal of a sufficient part of such securities (Clause 17 (6)). The Commission has at present a large measure of monopoly in some parts of the country, and notably in Scotland, of passenger transport, both rail and road, and it might prove desirable in the future in the public interest to have a larger measure of competition.

The Minister may well be guided in this matter, the Government states, by the result of the review referred to in the White Paper on transport of the working of the licensing system for public service vehicles set up under the Road Traffic Act, 1930, which it is proposed to undertake.

(It was stated by the Minister of Transport in answer to a question in the House of Commons on July 7 that the Road Passenger Executive would cease to exist after September 30, 1952.)

The Bill proposes to repeal the clauses of the Transport Act, 1947, which require the B.T.C. to submit schemes for trade harbours.

Constitution of B.T.C.

Under the Transport Act it is provided that the Commission shall consist of a Chairman and not less than four and not more than eight other members, to be appointed by the Minister from among persons who have had wide experience and shown capacity in transport, industrial, commercial or financial matters, in administration or in the organisation of workers. Not less than four must be whole time.

The Bill proposes that the membership of the B.T.C., apart from the Chairman, shall be ten instead of eight, the number of full-time members being left to the discretion of the Minister. In appointing them, the Minister is to have regard to experience in the management of railways and road transport, and in the organisation of workers and also persons who may between them be expected to be conversant with the requirements of agriculture, commerce and industry. The revised constitution of the Commission is intended to secure that in the determination of the Commission's policy full account shall be taken of the views of those who use, as well as of those who provide transport (Clause 23 (2)).

The Commission will no longer have the duty of providing "integrated" transport services for the country as a whole and its functions will have to be modified accordingly (Clause 23 (1)).

The borrowing powers of the Commission are to be increased (Clause 24).

Scotland

The special position of Scotland is recognised in the Bill. As indicated above, the railways are to be reorganised into areas. For each area there is to be an authority to whom specified functions of the Commission are to be delegated. In the case of Scotland, the Bill requires (Clause 15 (8)) that such an authority is to be provided for the whole of Scotland with or without authorities for separate areas in Scotland. Under Clause 16 of the Bill the Scheme of reorganisation does not come into effect until it has been approved by the Minister with or without modifications, and the Clause provides (sub-section (5)) that before exercising his powers in any case affecting Scotland the Minister is to consult the Secretary of State for Scotland.

Consultative Committee

It is provided in Section 6 of the Transport Act, 1947, that there shall be a Transport Users Consultative Committee for both passenger and goods traffic for Scotland, whether or not there are Committees for parts of Scotland. Under that Act the Scottish Committee is required to send copies of its minutes and of its recommendations to the Central Transport Consultative Committee for Great Britain. The Central Committee must send copies of its own minutes and recommendations to the Minister, who is empowered by the Act to give such specific directions to the Commission on matters dealt with by the recommendations of the Central Committee.

Under Clause 27 of the Bill copies of the minutes and of any recommendations or conclusions of the Scottish Committee are to be sent direct to the Minister as well as to the Commission and the Central Committee and the Minister will have the same powers to give directions to the Commission on recommendations as he now has in connection with those sent to him by the Central Committee.

The Scottish Committee will be in a position to submit recommendations directly to the Minister on any matter affecting B.T.C. services and charges in Scotland, and the Minister will be empowered to give directions to the Commission on it.

Welsh Consultative Committee

Copies of the recommendations, minutes, and conclusions of the Committee for Wales and Monmouthshire will in future be sent direct to the Minister as well as to the Commission and the Central Committee, and the Minister, as in the case of the Scottish Committee, will be empowered to give specific directions to the Commission with respect to any matters dealt with by such recommendations. (Clause 27 (2).)

Compensation to Employees

Disposal of the B.T.C. road haulage undertaking will not reduce the amount of haulage work to be done in the country, but some disturbance of employment is bound to result. Provisions similar to those contained in the Transport Act, 1947, are included in Clauses 25 and 26 for the protection of those who may be adversely affected.

The Minister will be empowered to make regulations as to pensions for those who enjoy pension rights as employees of the Commission but are displaced as a result of the disposal of the road haulage property or of any modification of the Commission's functions consequent on the Bill (Clause 25). The Minister is also required to provide for the payment of compensation to officers and servants of the Commission who suffer loss of employment or loss of emoluments or pension rights or whose position is worsened (Clause 26).

Debate on Bill Deferred

The Government has decided to defer Parliamentary proceedings on the Transport Bill until the next session, probably to be opened in October. It is intended that the Bill, which will have to be introduced afresh, shall be made the first Government business of the new session.

In informing the Commons of the Government's intentions in this matter on July 10, Mr. Crookshank, the Leader of the House, said it was considered preferable and more convenient that the committee stage of the Bill should follow the second reading after a normal interval rather than after a lapse of nearly three months.

CARE OF HORSES BY RAIL.—Mr. D. S. M. Barrie, Public Relations Officer, the Railway Executive, has replied to a letter published in *The Manchester Guardian* which suggested that arrangements should be made by British Railways for the watering, feeding, and general care of horses sent by rail to slaughterhouses. Mr. Barrie points out that the railways themselves own 3,000 horses, the welfare of which is a pride to all concerned. British Railways, he states, convey about 30,000 horses a year, and arrangements are in force for feeding, watering and general care in transit, in conformity with the recommendations of the Rosebery Committee, as embodied in the Transit of Horses Order, 1951. Detailed instructions are supplied to all staff likely to be engaged in the handling of horses, covering such points as frequent examination in transit and protection from bad weather. British Railways also have appointed a veterinary surgeon exclusively engaged in general supervision of the handling of all live stock sent by rail.

LIABILITY FOR INJURY TO CHILD TRESPASSING ON LINE.—The appeal recently was dismissed in the House of Lords from a Court of Appeal decision reversing a judgment in favour of the plaintiff, a boy now aged thirteen, in an action against the Railway Executive for damages for personal injury. In July, 1947, the plaintiff, with other boys, went after a ball through a gap in a fence dividing a recreation ground from the electrified railway. When they got through, they found other children sliding down the embankment. Apparently the plaintiff was dared to cross the track. On his return he tripped and was trapped between the live rail and the running line, and his arm was severed by a train. The presiding Lord of Appeal said that the appellant alleged that the respondents knew that the embankment and lines constituted a lure for children, that children frequently went there from the recreation ground to play, and that notwithstanding this knowledge the Railway Executive failed to take proper steps to prevent children from going there or to warn them of the danger of so doing. The appellant had not established that children from the recreation ground had become licensees to enter railway premises and slide down the embankment. The fence was duly repaired when broken on several occasions and obviously was intended to exclude intruders.

Fastenings for Flat-Bottom Railway Track—2*

Alternative methods adopted for various conditions and types of baseplate

IN the previous instalment the various baseplates for flat bottom track now in service or on trial on British Railways were described. As regards the fastenings themselves, the following is a brief description of the principal types.

(i) *Elastic rail spikes, type "A"*—The proprietary spring spike known as the Elastic rail spike, type "A," is made of silicon manganese spring steel and is generally galvanised, the $\frac{5}{8}$ in. square shank being driven into pre-bored holes in the sleepers. In the case of softwood sleepers, these holes are $\frac{1}{2}$ in. in diameter and are drilled right through the sleepers to make sure that the spike shank is not stopped before the full pressure is put on the rail foot. The Elastic spikes are

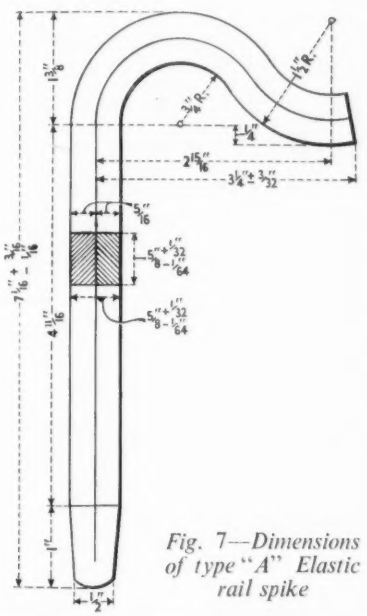


Fig. 7—Dimensions of type "A" Elastic rail spike

made of a strip of $\frac{5}{8}$ in. by $\frac{5}{16}$ in. spring steel, folded at the centre, and the two halves laid together so that the $\frac{5}{8}$ in. square results. The open ends are then bent over into a swan-neck shape curve and the closed end formed to a wedge shape to facilitate driving (Fig. 7). The swan-neck presses on the foot of the rail when the shank is driven into the hole in the sleeper. The pressure obtained is sufficient to hold the baseplate, through which the spikes pass firmly on to the sleepers, the necessary tension being obtained when the toe is deflected $\frac{1}{4}$ in., which is checked by means of a special gauge.

(ii) *Macbeth spike anchors, type 3.*—The proprietary Macbeth spike anchor is a double-legged spring-tempered spike made from solid $\frac{9}{16}$ in. dia. steel bar. The legs are driven simultaneously into pre-bored $\frac{7}{16}$ in. dia. holes, with the gripping arm extending over the rail foot. In the correctly driven position the gripping arm is deflected $\frac{1}{4}$ in. and produces a grip on the rail foot, which is claimed to be sufficient to resist creep between rail and baseplates. The general shape of the spike may be seen in Fig. 8.

(iii) *Spring clips and bolts.*—The spring clips are made of silicon manganese spring steel, and their shape is seen in Fig. 9. One end of the clip bears on the foot of the rail and the other end rests in a specially moulded seating which prevents the clip from moving out of position or twisting when the nut of the bolt is tightened. A short tee-headed bolt is dropped into a special hole in the baseplate and is given a quarter turn which locks it in position. The clip is then put on and the nut screwed down on the tee-bolt until pressure is put on the rail foot.

(iv) *Elastic rail spikes, type "T."*—This spike has been designed for use either with single or double shoulder baseplates or where the rail rests direct on the sleeper, the shank varying according to conditions. It is claimed that the type "T" spike is specially suitable for conditions which are particularly susceptible to rail creep, the spike being stated to have a higher resistance to creep than is the case with the type "A" spike. The "T" spike is similar in design except that the head is twisted to 1 in 6 away from the shank. Trials are at present being made in this country with the T.7 and T.13 spikes, the former being $6\frac{3}{4}$ in. in length, and the latter $7\frac{1}{4}$ in. In one case the spikes are being used in conjunction with a tapered rubber pad inserted between the rail and the sleeper, no baseplate being used. Four "T" spikes, type T4, are applied at each rail, the two outside spikes being alternatively left-hand and right-hand, and the inside spikes being similarly arranged. These arrangements are made to ensure maximum resistance to creep. Where three-hole baseplates are used, the outside spike on each succeeding baseplate is driven in the opposite direction to the previous one (Fig. 10).

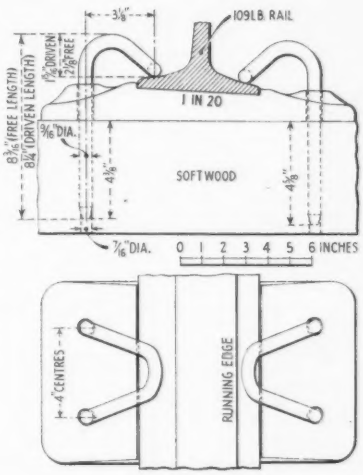
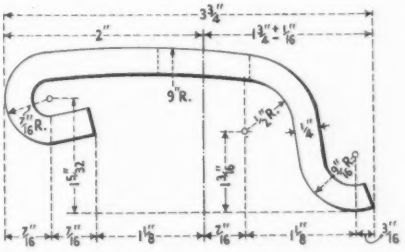
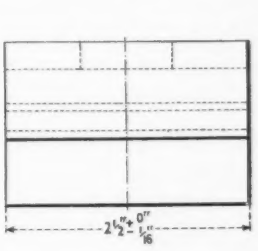


Fig. 8—Method of securing rail with the Macbeth spike anchor, type 3

(v) *Mills loose jaw and taper key.*—In this case the baseplate is secured to





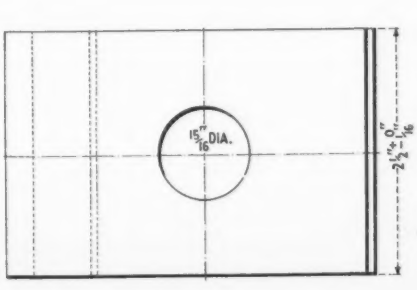


Fig. 9—Spring clip for use with specially moulded seating

* Part 1 appeared in our issue of July 11

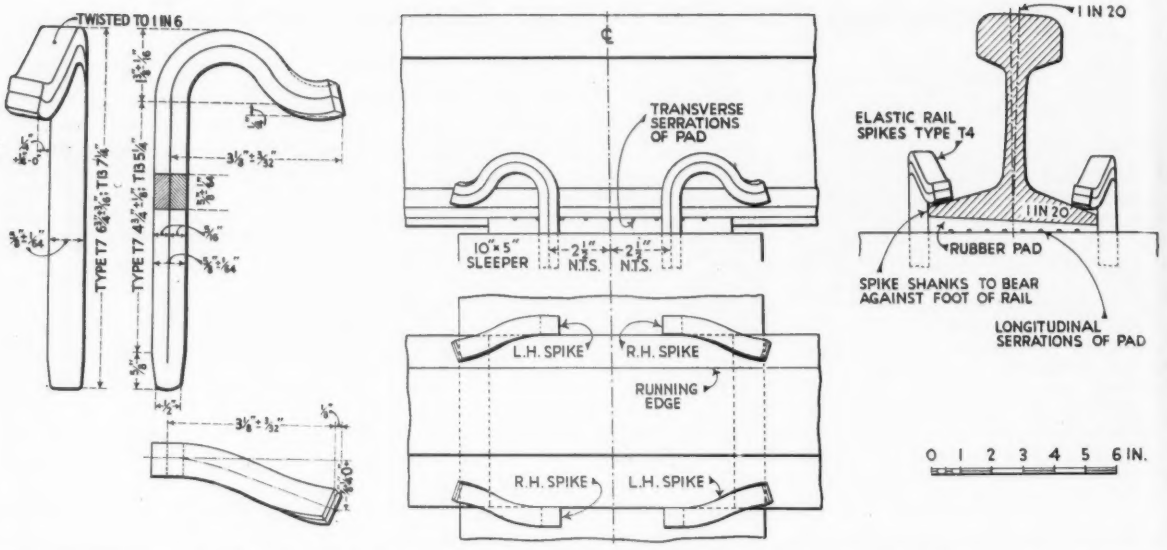


Fig. 10—Elastic rail spike type T7 (left) and example of T4 type with rubber pads for securing flat bottom track (right)

the sleeper by three chair screws, and is provided with a lip on the outside under which the foot of the rail fits, and on the inside with a specially formed recess in the foot of the baseplate into which the tail of the Mills jaw fits. The Mills jaw itself has a winged C-shaped tempered spring clip, and when in position presses upwards against a recess in the baseplate under the rail seat. A rolled steel taper key, driven between the rail foot and the upper winged bar of the jaw, develops adequate grip and creep resistance between rail and rail seat. It is claimed that the spring properties of the jaw ensure stability of the assembly under vibration, while the two wings ensure correct bearing between jaw and key. Two types of outside lip are under trial, one with a vertical face and the other with a wedge type face, as illustrated in the previous instalment of this article.

(vi) *Hey-back fastenings.*—In this type of fastening the baseplate is provided with a key-way outside the rail seating on either side, lipped away from the rail to provide for a special spring fastening which can be readily inserted. One end of this spring exerts a consistent pressure on the foot of the rail by reason of the downward leverage of the key-way lip on the metal portion of the spring. Trial in this case has been made using a baseplate with four chair screws, but consideration is also being given to the use of a baseplate having three screws only.

(vii) *Macbeth spike anchors, type 2.*—This proprietary spike anchor is made from similar material to the No. 3 spike and is designed for use where the spike legs are required to be close to the rail foot, *i.e.*, using shoulderless baseplates, small area baseplates, or no baseplates. A trial is being made with this fastening, using no baseplate but with a tapered rubber pad inserted between the rail and the sleeper, the taper giving the necessary rail inclination. The shanks are driven into pre-bored $\frac{7}{16}$ in. dia. holes adjacent to the rail foot, thus holding the rail to gauge and providing a spring grip and resilience similar to that of the No. 3 type.

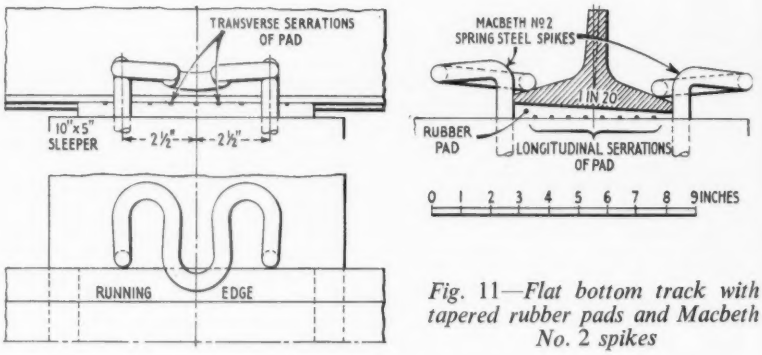


Fig. 11—Flat bottom track with tapered rubber pads and Macbeth No. 2 spikes

The gripping arm is generally of "W" shape, its middle point extending over and engaging the rail foot, and so affording lateral rigidity. This arrangement is shown in Fig. 11.

Experience to date

It is outside the province of this article to detail the claims made for the varying types of fastening, but it is hoped that it has given a broad picture of the steps being taken by British Railways to determine the most satisfactory type or types of fastening suited to the varying conditions of the traffic, road bed, and so on.

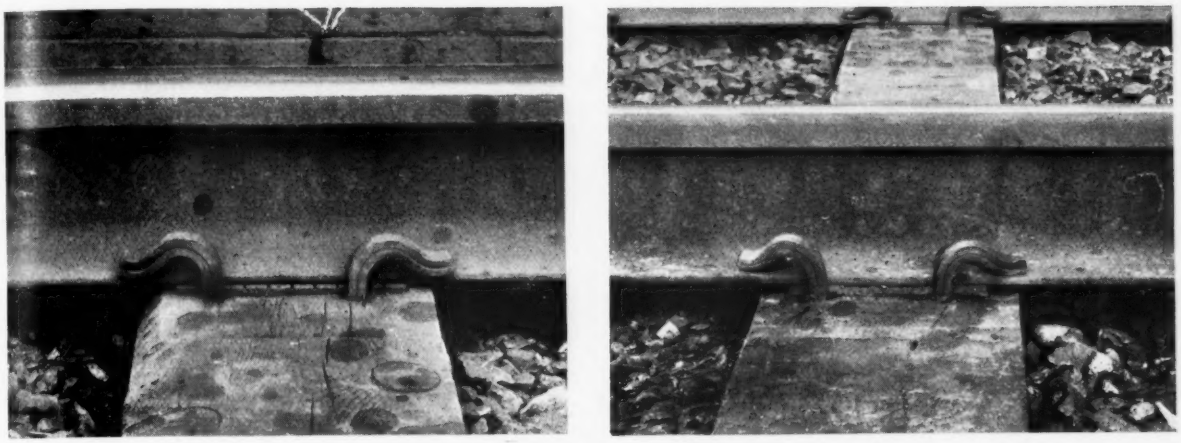
To this end, test lengths of the varying types have been laid in on the Regions, and one such test length near Bricklayers Arms Junction between London Bridge and New Cross Gate at present has under trial five different types of fastenings. These were laid down in August, 1950, and to date have proved satisfactory, but it will be appreciated that such tests can only be conclusive over a period of years.

(*Concluded*)

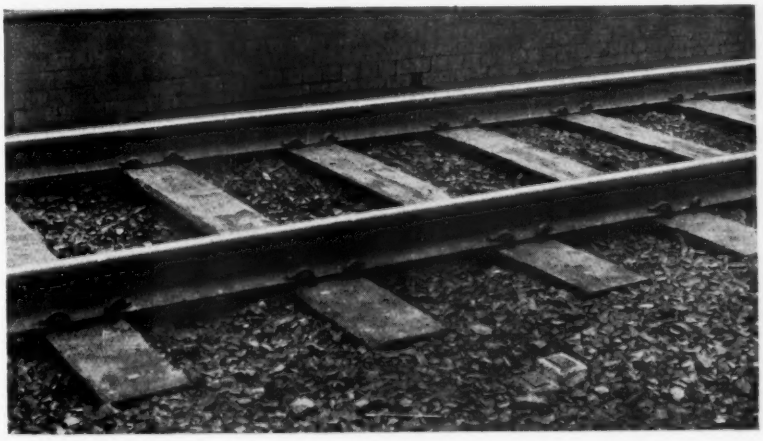
SUNVIC CONTROLS LIMITED CONTINENTAL OFFICE.—Sunvic Controls Limited, Sunvic House, 10, Essex Street, London W.C.2, manufacturers of temperature control and measurement equipment, will open a Continental office at Skindergade, 38, Copenhagen K, Denmark. (Telephone: Central 1402) on August 15. The company's European Manager, Mr. B. Hveissel, will be in charge.

DISCHARGING ORE AT RIVER TEES WHARF.—At the South Bank Wharf of Dorman Long & Co. Ltd., on the River Tees, where there is a modern installation of Dorman Long ore transporter unloaders, five large ore ships were completely discharged from start to finish, and two more partly discharged, in the week ending June 28. The total quantity of ore handled over the wharf in that week was 41,838 tons, all of which was dealt with in 12¼ working shifts. Another quick turn-round was achieved on July 3, when the ss. Holmside arrived at 12.30 a.m. and her cargo of 3,778 tons of iron ore was completely discharged by 5.55 p.m.

Fastenings for Flat-Bottom Railway Track—2

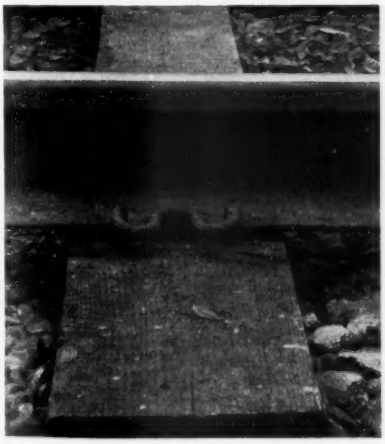


Inside view (left) and outside view (right) of flat bottom track on rubber pads secured by Elastic "T" type spikes

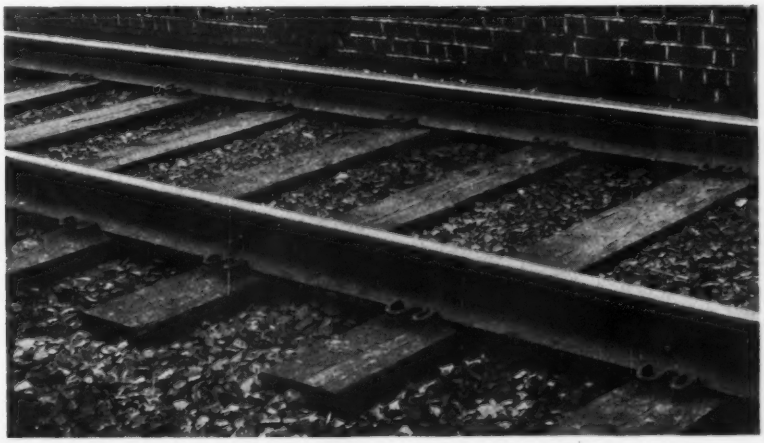


General view of a section of track using Elastic "T" type spikes and rubber pads

Inside view of track fastening with Macbeth No. 2 spike and rubber pad



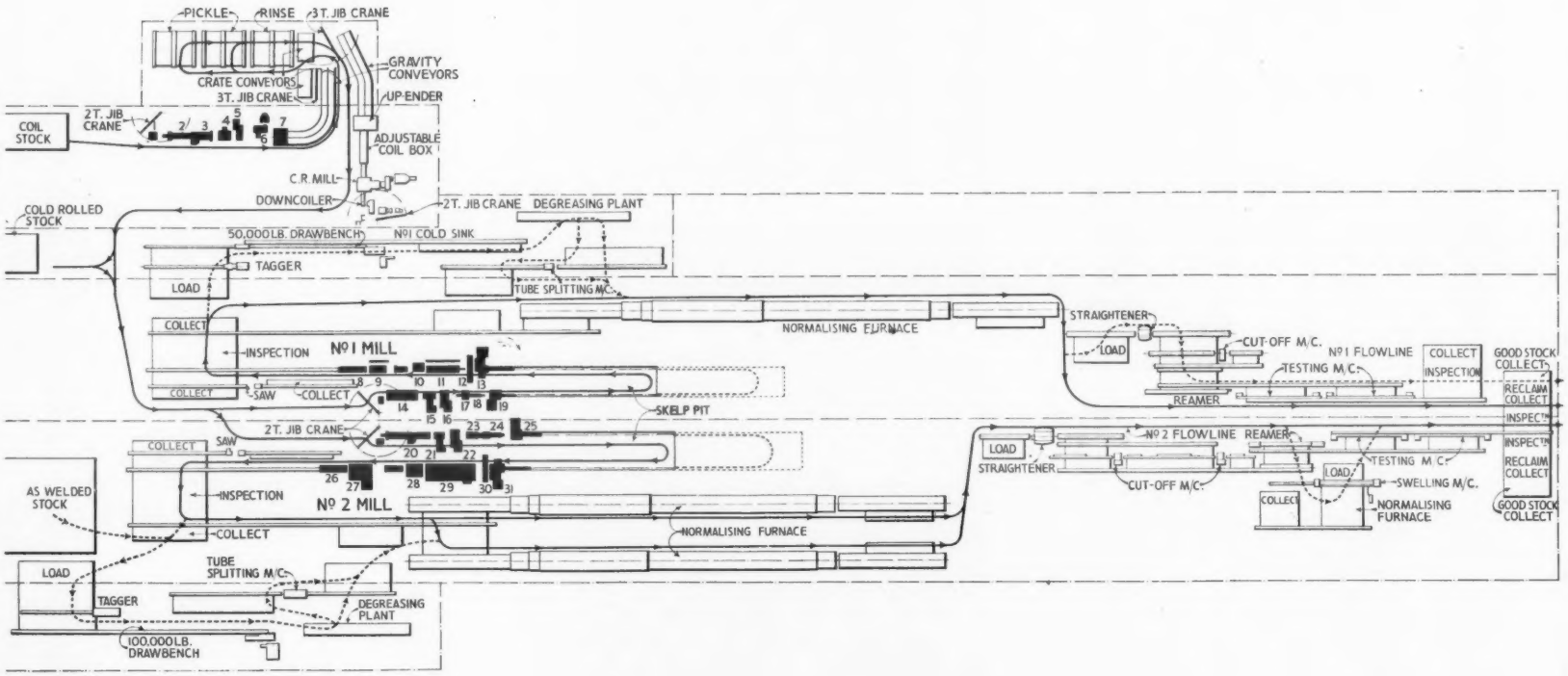
Macbeth spike and rubber pad, outside view of fastening



General view of section of track with the spike and pad fastening illustrated on left and on right above

Tube Manufacture by Electric Resistance Welding

(*See article opposite*)



1. Weighing machine
2. Dust collector
3. Coil box
4. Scale breaker
5. Up-cut shear
6. Take-up reel
7. Down-ender
8. Rotary cut-off
9. Sizing mill
10. 250 kVA welder
11. Forming mill
12. Scrap chopper
13. Slitter
14. Coil box
15. Leveller
16. Up-cut shear
17. Strip welder
18. Stripper
19. Pinch rails
20. Coil box
21. Leveller
22. Up-cut shear
23. Strip welder
24. Stripper
25. Pinch rolls
26. Rotary cut-off
27. Sizing mill
28. 500 kVA welder
29. Forming mill
30. Scrap chopper
31. Slitter

Diagram of the electric resistance welding plant at Corby

Tube Manufacture by Electric Resistance Welding

Process by which boiler and superheater tubes up to 4 in. dia. are produced

THE making of steel tubes by welding the edges of strip bent into circular form is not new. Processes used in the past, while giving welds of adequate strength for the purpose for which the tubes were required, seldom produced a weld as strong as the parent metal. Such a weld is, however, produced by the latest type of electric resistance weld mill recently installed by Stewarts and Lloyds Limited at Corby for the production of high-grade steel tubes.

The electric resistance weld process is not new in this country, but it is only within recent times that it has been developed in America to the point at which it produces the highest quality of tubes suitable, for example, for boiler tubes. This development has largely been brought about by Babcock & Wilcox Limited of America, and apart from a general improvement in the plant itself, the main difference between the new process and the old is the use of a comparatively high frequency alternating current to provide the most consistent welding conditions.

Before deciding on the electric resistance welding process, Stewarts and Lloyds examined many tubes made in America from American steel. A quantity of Corby steel was also sent to Babcock & Wilcox in America to be made into tubes. These were returned to Corby, and subjected to some 2,000 tests to prove the quality of the product.

For high-quality tubes, such as boiler tubes to B.S. 1654 and B.S. 1678 it is essential that the weld is as strong as the parent metal, and consistently good throughout, and it is necessary to ensure complete uniformity and consistency both of the steel and the process. Stewarts and Lloyds is particularly well placed in this respect, in that at Corby the company uses its own uprising scrap and iron made direct from its own ores in its own steel plant. These virgin raw materials ensure that the steel is free from elements which would be undesirable from the welding point of view.

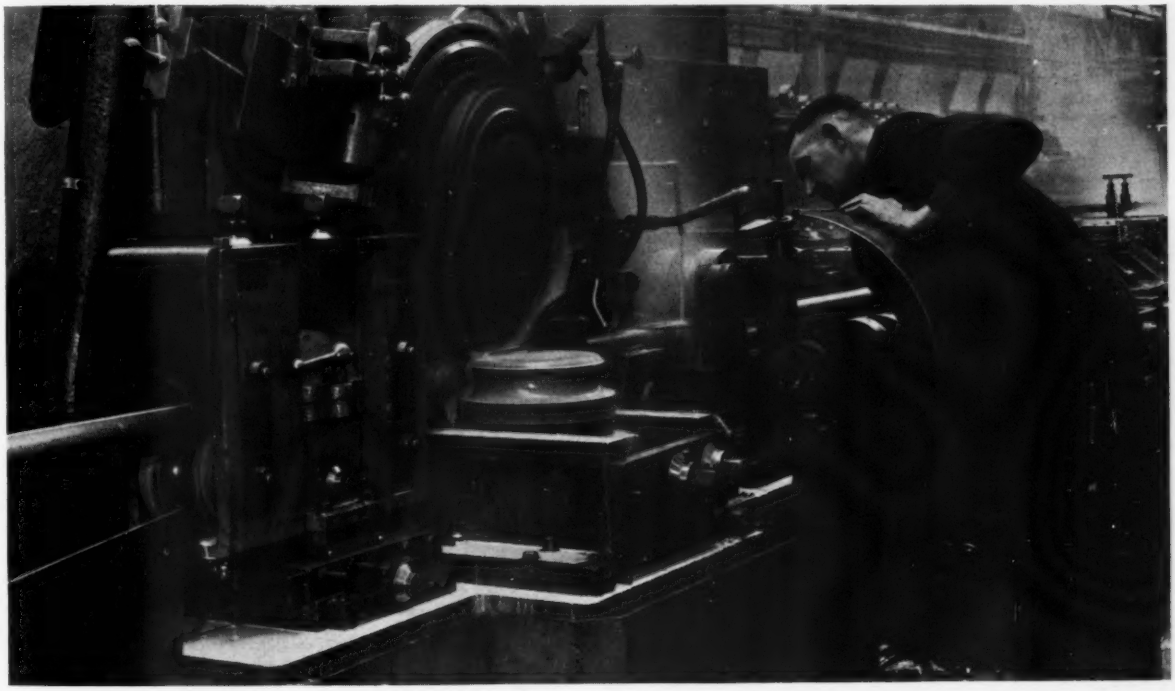
To ensure satisfactory production, all processes from the production of raw material to the finished tube are under the control of the company's inspection staff, supplemented by flattening tests and magnetic testing of the weld.

There are two practically identical plants at Corby, the only important difference being that each deals with a different size of tube. To shorten the development period it was arranged with Babcock & Wilcox in America that the plant design should be virtually a duplicate of that company's plant, since Babcock & Wilcox is itself a boiler and tube maker, and uses this process for its own requirements as regards both boiler tubes and pressure tubes.

Description of Process

The strip arrives from the hot strip mills in coils, and is first descaled by passing through a series of rolls which bend it alternately up and down, cracking off all scale and dirt. After rewinding, the winding gear is reversed so that the turns are loosened, to ensure that the acid may have free access to all surfaces in the subsequent pickling operation. The loosened coil is turned into a horizontal position and conveyed to the pickling plant, and immersed in hot sulphuric acid to remove all traces of scale, rust or grease. It is then washed and returned to the vertical position ready for the cold rolling operation.

The end of the coil is fed into the cold rolling mill, which gives the strip a cold pass. This important operation, in addition to reducing the thickness by approximately 10 per cent. to create a fine surface finish, produces uniformity of thickness across the width of the strip, and ensures the close thickness tolerances, a feature of this class of tube. A continuous check on the



The rolled tube with abutting edges in the process of being welded by the copper double electrode. Pressure on the tube is maintained by the sizing rolls

thickness of the cold rolled strip is maintained by dial micrometer control on the outgoing side of the rolls.

The surface of the cold rolled strip is oiled to protect it as it leaves the cold rolling mill and the strip is then conveyed to the tube mill. To make the process continuous, it is necessary for each successive coil to be welded to the previous one; this is done in a flash welding machine.

Before entering this machine the coil is unwound through a skelp leveller, the rolls of which flatten the strip before the ends of the coil are cut square to present clean surfaces for welding. The "flash" of extruded metal resulting from the joining of the coils together is ploughed off by pulling the strip through a pair of cutters, leaving a flush surface on the strip. At a later stage this "crossweld" is cut from the tube, and scrapped.

Since the flash welding of coils is an intermittent process, the strip being stationary while welding takes place, it is necessary to have a loop between the flash welder and the forming mill to provide a supply of strip for the continuously operating forming mill. Before entering this unit, the strip is brushed by wire brushes and passes through an edge slitter which trims it to exact width and provides fresh clean cut edges for the welding operation.

Tube Forming Mill

The forming mill consists of nine sets of rolls which gradually change the flat strip into tubular form by curving up the edges, pressing it down in the centre, and eventually rounding it into cylindrical shape. A central fin on the last forming roll accurately positions the edges prior to welding. The formed strip with abutting edges uppermost now passes into the welding machine in which a large copper double electrode wheel runs on the top of the tube, making contact with the edges on either side. The current passing down one electrode crosses the edges before it passes into the other electrode.

Two side rolls maintain pressure on the tube at this point, and the current passing across the junction heats the metal locally to welding temperature. Heating is extremely rapid, since speeds up to 100 ft. per min. may be used. As a result of such rapid heating, not only is there little time for oxide to form, but the heat does not spread appreciably and only a narrow incandescent line is formed along the top of the tube. Surplus semi-molten material is squeezed out of the weld by the pressure of the side rolls, which ensures adequate welding.

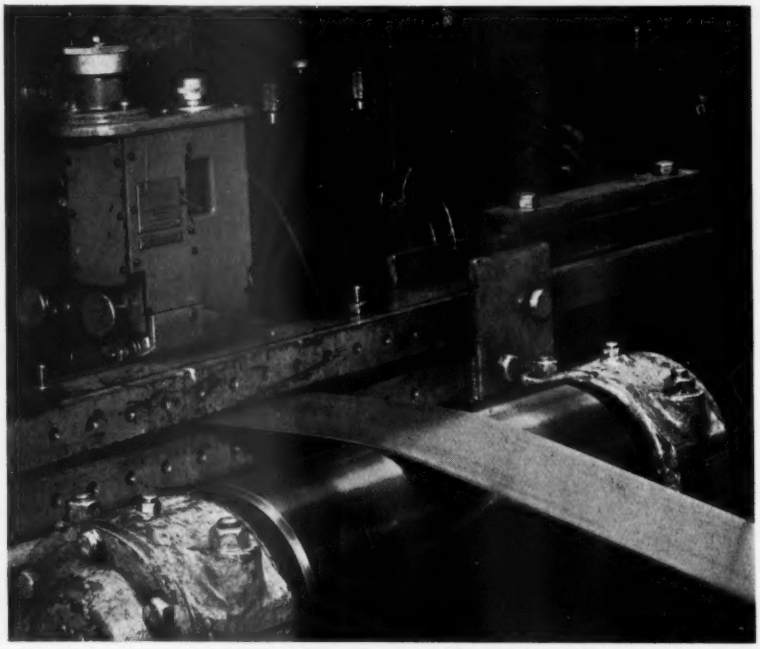
Alternating current is used, but the frequency is increased from the 50 cycles per sec. of the mains to 200 or 350 cycles per sec. according to the size of the tube, to give the most efficient welding conditions. The reason for this increase in frequency is that with the high welding speed used, pulsations of current at mains frequency would cause intermittent welding, but by increasing the frequency the pulsations are so close together that welding is continuous.

A rotating transformer is used to feed the high-current, low-voltage supply to the electrode discs so that only the lower-current, higher-voltage primary supply has to be passed through the rotating slip rings. Immediately after welding, the external bead formed at the weld is trimmed off to a flush surface by a cutter on the outside of the tube. A similar cutter to trim the internal bead is supported inside the tube by a long rod held from a point in the forming mill before the strip edges are brought together.

Water sprays cool the weld, and the tube passes into a travelling cut-off machine which, without stopping the tube, cuts it into lengths as required. For certain purposes, the tubes may be supplied in the as-welded or semi-bright state, but where ductility is important, for example, in boiler or superheater tubes, the tubes require to be normalised. The cut tubes, therefore, pass into a long normalising furnace in which they are heated to the temperature necessary to restore a uniform structure.

The tubes are then cooled slowly in an inert atmosphere which is adjusted to produce a blue-black adherent surface of pleasing appearance. The tubes take about an hour to pass through the normalising plant, depending on their size and thickness. When the temperature is sufficiently low, a coolant is applied to the tube to bring it down to room temperature, and it emerges ready for straightening. This is done by passing the tube through diagonal rolls, after which it is ready for the various finishing operations. A protective coat of non-drying oil is finally applied.

The mill rolls certain basic sizes. Where intermediate sizes are required these are obtained by cold sinking, *i.e.*, drawing through a die of the required finished size without the use of an internal plug. The reduction in outside diameter causes a slight thickening of the tube which is allowed for in the making of the tube. The finished cold sunk tube is normalised after cold sinking, and is indistinguishable from basic size tubes.

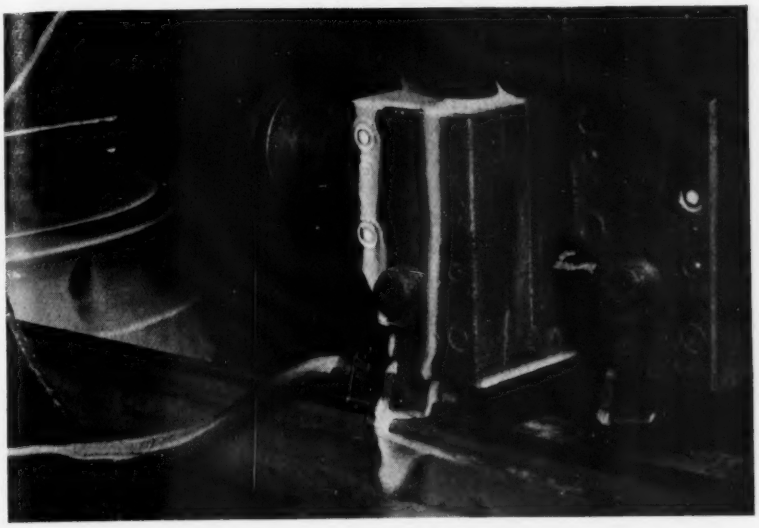


The cold strip passing through sizing rolls. The thickness is checked by dial micrometer on the outgoing side

If required, electric resistance welded tube may be supplied semi-bright or bright finish, or cold drawn, using an internal plug depending on the ultimate purpose for which the tubes are required. The steel usually employed has a minimum tensile of 20 tons/sq. in. with a minimum yield point of 11 tons/sq. in., though higher tensile steels may be used. At present, however, it is not proposed to have a carbon content greater than 0·25 per cent. A large number of tests have been carried out on tubes produced by the welded process and they are said to be capable of meeting every specification for seamless tubes.

The weld in the normalised condition is almost impossible to find, even under the microscope, except for the fact that the trimming-off of the inside and outside bead leaves a barely perceptible difference in surface texture which indicates the position of the weld

The tubes have been used in America for a considerable time. The American Navy first used electric resistance welded boiler tubes in 1939,



The external bead being removed after welding. The inside bead is removed by an internal cutter

no trouble being experienced over a five-year trial. They were then accepted under a standard specification from approved manufacturers. They are also accepted by the American Bureau of Shipping and the Maritime Commission as the equivalent of seamless tubes, and have for some time been used extensively for land boilers in America.

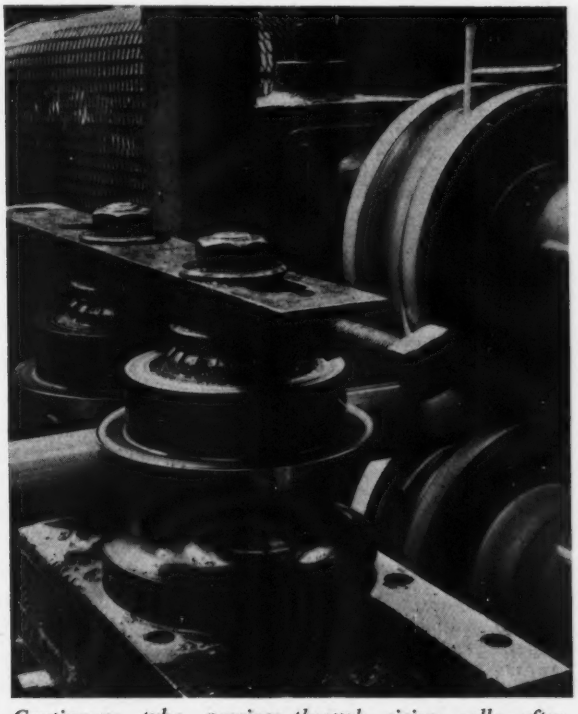
It is said that as a result of demonstrations and tests, Lloyd's Register of Shipping and other important survey bodies have agreed to accept electric resistance welded tubes as the equivalent of seamless boiler tubes, and that they are used for many purposes for which hot-finished seamless tubes and cold-drawn seamless tubes were previously used. Advantages claimed for the process include ease of inspection by virtue of the layout; cold pass of the strip ensures a good surface finish and uniform wall thickness; the most suitable welding conditions are provided by the use of relatively high frequency alternating current; a smooth bore is obtained by the method of removing the flash; and use of single strip width.

Apart from the usual tensile and other tests of the finished products to ensure accuracy during production, inspection staff are posted at various stages in the line. They operate entirely independent of the production staff, and are empowered to stop production should the need arise.

BRITISH RAILWAYS COAL, IRON AND STEEL CARRYINGS.—For the third week running British Railways have carried more coal than in the corresponding week last year. The tonnage of deep-mined and opencast coal cleared during week ended 6 a.m. on July 14 amounted to 2,898,390 tons, compared with 2,889,810 tons during week ended July 16, 1951. During the week ended July 5 iron and steel conveyed by rail from the principal steelworks amounted to 191,005 tons.

B.S. FOR CARBOYS AND CARBOY HAMPERS.—In 1936 when the first British Standard was issued for glass carboys, the balloon-shaped container was the only one in general use. In recent years, a straight-sided carboy has become popular in the 5-gal. size although the balloon shape is still the most practical for the larger capacities. A revision of B.S. 678, "Carboys and carboy hampers," has therefore been undertaken which provides for a 10-gal. balloon carboy and a 5-gal. straight-sided carboy. A great deal of development is at present taking place in the design of carboy hampers and consequently these are not specified in detail. The new standard, however, includes an informative illustrated appendix on carboy hampers. A useful addition to the new standard is an appendix giving notes on safety precautions to be taken with carboys.

The cold rolled strip in the tube forming mill before welding



Continuous tube passing through sizing rolls after welding

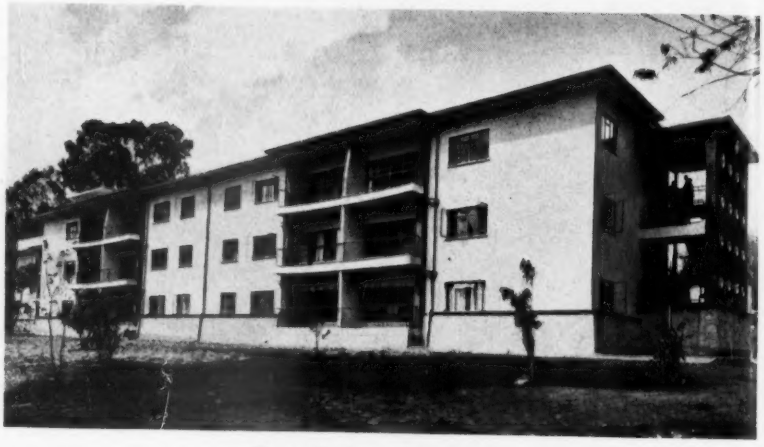
Railway Housing in East Africa

Blocks of flats built in Nairobi for European staff

DEVELOPMENT throughout the East African territories and expanding traffic has entailed the employment of more staff over all parts of the East African Railways & Harbours system and particularly in Nairobi, capital of Kenya and headquarters of the E.A.R. & H.

When the war ended an extensive house-building programme was inaugurated but there was considerable leeway to make up. By 1950, there was a waiting list of 80 junior European staff for houses in Nairobi. As part of the programme it was decided to build a block of 18 flats in three storeys near the corner of Upper Hill and Whitehouse Roads, within a mile of the railway headquarters building and the station.

The Chief Engineer, whose department includes a complete architectural branch, is responsible for providing housing for railway staff. This building was designed by the Architect of the Administration (Mr. C. J. Crowe) and the construction was carried out departmentally by the Nairobi Engineering District under Mr. J. M. Kesson, District Engineer, and Mr. W. Beck, the Building Superintendent.



General view of new flats

In foreground (left to right) Messrs. C. J. Crowe, Architect; W. Urquhart, Chief Engineer; A. Dalton, General Manager; and R. W. Osgathorp, Staff & Welfare Assistant, East African Railways & Harbours. A group taken during the General Manager's inspection of the flats

Long-term Housing Plan

The construction of these flats marks the completion of the first phase of a long-term development plan for high-density housing to replace existing older railway houses in the Whitehouse Road area, which will be developed in time as a light industrial area.

The general construction is in reinforced concrete and stone with a flat roof. The main tower contains a staircase, rubbish chutes and a utility block which includes a perambulator store, box rooms, telephone call box and an electric pump for pumping water into the roof gravity tanks. Over 2,000 sq. feet of the roof area has been screened and equipped as a clothes-drying ground. Additional stairs are provided at each end of the building.

Each flat, which has an area of just over 1,100 sq. feet, contains an entrance hall, combined lounge and dining room (which may be divided by curtains), a balcony, two bedrooms, bathroom, lavatory and an all-electric kitchen. There is liberal cupboard and storage space, and the bedrooms have built-in wardrobes with sliding doors. The flats have been designed primarily to minimise housework so that the occupants can dispense with servants, if desired.

A new series of railway furniture has been designed by the Architect of the Administration and has been manufactured in the Chief Mechanical Engineer's workshops, Nairobi. The issue includes a complete range of tables, chairs, lounge chairs, settees, beds and dressing tables. The object in producing this new furniture has been to improve the aesthetic design, reduce costs and speed production. Various types of finish to allow for the use of hard or softwood timber have been used, including clear cellulose and cellulose in pastel shades.

The exterior colours are, in the main, terra cotta and cream with natural stone from Maji ya Chumvi facing the plinth and terraces. The interior colour schemes of the flats are neutral in pastel shades.

INSTITUTE OF TRAFFIC ADMINISTRATION.—The aims and objects of the Institute of Traffic Administration were the subject of a recent address by Mr. C. J. Parker, Vice President of the Institute, to the Portsmouth Centre. Before hoping to gain anything from the Institute, he said, members must first put something into it and make available their knowledge to others by preparing papers and so on. Throughout the Institute it was the local centres which played the most important part, as it was there that contact was made with other members. In education the Institute had been slowly developing in accordance with its ideals.

RAILWAY NEWS SECTION

PERSONAL

Mr. C. D. Cowie has retired as Vice-President & Treasurer of the Canadian National Railways.

Honorary degrees of Doctor of Laws have been conferred on Mr. Donald Gordon, Chairman & President, Canadian National Railways, and Mr. W. A. Mather, President, Canadian Pacific Railway, by the University of Western Ontario.

Mr. A. L. Watt, Assistant to the Revenue Accountant (Merchandise), Newcastle-on-Tyne, Eastern & North Eastern Regions, has been appointed Revenue Accountant (Merchandise).

Mr. G. J. Phelan has been appointed Manager of the Canadian Pacific Railway Passenger Tariff Bureau, in succession to Mr. R. H. M. Falls, who has retired. Mr. Phelan had been Assistant to the Manager of the Bureau since 1942.

Sir Herbert Merrett, Chairman, Powell Duffryn Limited, and a part-time Member of the Railway Executive, has been elected Vice-Chairman of the Joint Ports Committee of the Industrial Association of Wales and Monmouthshire, for the ensuing year.

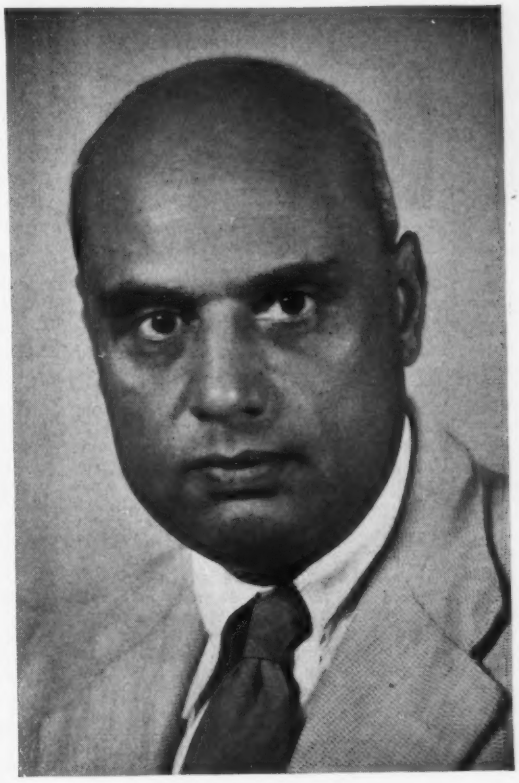
The North British Locomotive Co. Ltd. has acquired a controlling interest in Henry Pels & Co. Ltd., and Mr. T. A. Crowe, Chief Managing Director, North British Locomotive Co. Ltd., has become Chairman of Henry Pels & Co. Ltd.

The Queen, on July 8, at Buckingham Palace, conferred the honour of Knighthood upon: Mr. Leslie Roberts, C.B.E., Chairman & Managing Director, Manchester Ship Canal Company; and Mr. Geoffrey Herbert Savage, Chairman, Central Conference of Employers & Trade Unions in the Engineering Industry.

Mr. E. J. B. Gahan, who has retired as Chief Engineer, Nigerian Railway, began his railway career with the Midland Great Western Railway of Ireland and joined the Kenya & Uganda Railways in November, 1924. After 14 years with the K.U.R., he transferred to the Nigerian Railway in January, 1939, as Senior Engineer and became Assistant Chief Engineer in 1942 and Chief Engineer in January, 1946.

Mr. W. T. P. Perkins, General Manager of the Transport & Harbours Department, British Guiana, who, as recorded in our April 11 issue, has been appointed Chief Engineer, Nigerian Railway, was born in 1904. He served with the railways in Great Britain from 1922 to 1927, and went to Jamaica in 1928 as a Railway District Engineer. He was appointed General Manager, Trinidad Railways, in 1944 and to the position he now relinquishes, in 1949.

Mr. K. B. Mathur, M.Sc., General Manager, Bengal Nagpur Railway, who, as recorded in our May 23 issue, has been appointed General Manager, Eastern Railway, India, was born in 1904, and was educated at Kanpur and Muir Central College, Allahabad. He graduated as M.Sc., and worked as a Professor of Physics at Ewing Christian College, Allahabad, for two years, before joining the East Indian Railway in 1928, as Probationary Assistant Transportation Superintendent. Following further experience, he served as a senior scale officer in various capacities in the Commercial and Transportation Departments, until 1942, when his services were placed at the disposal of the Defence Department, and he took charge of all rail movements in the Eastern Army Zone. On release from the Defence Department, he returned to the East Indian Railway as Superintendent, Transportation, Howrah, and after a brief period as Superintendent, Transportation, Asansol, was promoted in 1946 as Divisional Superintendent (Transportation), Dhanbad. In 1947 he went to headquarters as Deputy Chief Commercial Manager (Goods) and later that year took over as Divisional Superintendent, Allahabad. In January, 1948, he became Chief Operating Superintendent, E.I.R., but left that post in March, 1951, to become the General Manager in the absence of Mr. B. B. Varma. Mr. Mathur resumed as Chief Operating Superintendent in November, 1951, on Mr. Varma's return from leave. Mr. Mathur was a delegate to the International Railway Congress, which was held at Lucerne, Switzerland, during June, 1947. He was appointed General Manager, Bengal Nagpur Railway, in January, 1952.



Mr. K. B. Mathur
Appointed General Manager, Eastern Railway, India

Herr Karl-Friedrich Metz, of the German Federal Railways, is on a visit to Ireland.

Mr. H. P. Potts, Managing Director of B.S.A. Tools Limited, has been appointed a Director of the Birmingham Small Arms Co. Ltd.

Mr. K. C. T. Marshall has been appointed a Director of Lightalloys Limited.

Mr. N. K. S. Brodribb has been appointed a Director of the Mount Lyell Mining & Railway Co. Ltd.

Those recently elected as Members of the Institution of Civil Engineers include Mr. F. J. J. Prior, District Engineer, Purley, Southern Region, British Railways.

Mr. F. A. Callaby has been appointed Financial Controller of the Westinghouse Brake & Signal Co. Ltd. He will be directly responsible to the Managing Director.

Dr. W. I. Pumphrey, Manager of the Research Department of Murex Welding Processes Limited, has been made a Freeman of the City of London and a Liveryman of the Worshipful Company of Blacksmiths.

Mr. W. Desborough is retiring on July 26 from the boards of Powers-Samas Accounting Machines Limited and Powers-Samas Accounting Machines (Sales) Limited. He will also vacate the office of Managing Director of Powers-Samas Accounting Machines (Sales). Mr. F. J. Nash is appointed General Manager of the Sales Division from July 27.

Mr. H. Cecil Booth has retired from the board of the British Vacuum Cleaner & Engineering Co. Ltd., of which company he has been Chairman for 40 years, and for many years was also Managing Director. Mr. J. J. Hambidge, who has been a Director of the company since 1922, has been appointed as Chairman and will continue to act as Senior Joint Managing Director.

C.N.R. Appointments

The following appointments in the Passenger Traffic Department of Canadian National Railways have recently been announced:—

Mr. H. C. McLaren, Chief of the Passenger Tariff Bureau, to be Manager of the Passenger Tariff & Ticket Bureau at Montreal.

Mr. L. F. McCarthy, Chief Clerk to the General Passenger Agent at Montreal, to be Assistant to the General Passenger Traffic Manager.

Mr. L. P. Coady, Chief Clerk to the Passenger Traffic Manager, Toronto, to be Special Passenger Agent at Montreal.

Mr. G. A. Hobbs

European Passenger Manager, Canadian Pacific Railway, 1949-52

Mr. G. A. Hobbs, European Passenger Manager, Canadian Pacific Railway, who, as recorded in our July 4 issue, has retired, joined the company's Passenger Department at Winnipeg in 1912, after education in Winnipeg and at the Merchant Venturers' College, Bristol. He served in the Canadian Army in the first world war and after demobilisation rejoined the C.P.R. in London. In December, 1925, he was transferred to the Paris Office, becoming successively Chief Clerk and Passenger Agent. In 1937 he returned to London as General Agent, Passenger Department. Mr. Hobbs was appointed General Passenger Agent in 1946 and on January 1, 1949, was promoted to European Passenger Manager. Mr. Hobbs has for some years taken an active interest in the McGill Society of Great Britain of which he is at present the Honorary Treasurer, and he is also the Immediate Past President of the London Lions Club.

The late Commander Sir Robert Micklem, C.B.E., R.N. (retd.), who had been Joint Managing Director of Vickers Limited, Chairman of Vickers-Armstrongs Limited and a Director of other companies in the Vickers group until his retirement from those positions earlier this year, left £71,605.

Mr. L. G. Packham has been appointed Overseas General Manager of C. C. Wakefield & Co. Ltd. In this capacity he has succeeded Mr. W. F. List, who is now an Assistant Managing Director. Mr. Packham was previously Manager of Overseas Division (Branches).

Officers of the Institute of Transport, Metropolitan Section, for the year commencing October 1, 1952, have been elected as follows:—

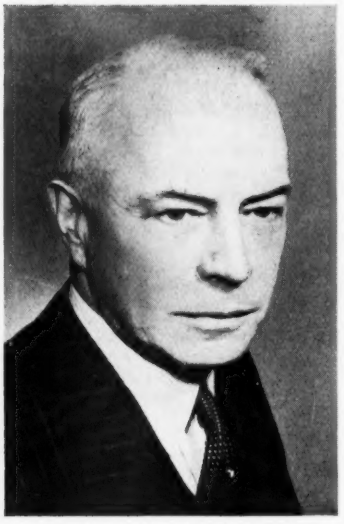
Chairman, Mr. F. Gilbert, British Transport Commission; Immediate Past Chairman, Mr. G. E. Sinclair, Road Haulage Executive; Vice-Chairmen, Messrs. G. H. Searle, Ministry of Food, J. W. S. Brancker, B.O.A.C., Alex. J. Webb, London Transport Executive; Honorary Treasurer, Mr. A. R. Parselle, Ministry of Food; Honorary Secretary, Mr. C. F. King, Bryant & May Limited.

Mr. E. S. Spackman

Appointed European Passenger Manager Canadian Pacific Railway

Mr. E. S. Spackman, General Passenger Agent at the Canadian Pacific Railway European headquarters, who, as recorded in our July 4 issue, has been appointed European Passenger Manager, is 56. He is a native of Southampton and joined the C.P.R. in 1915 as Assistant Paymaster in the ss. *Lake Michigan*, one of the company's ships then in trooping service. He was at sea until transferred to the Passenger Department in London in 1921, and was appointed Travelling Passenger Agent in 1930. Mr. Spackman moved to Liverpool in 1935 to take up the position of Passenger Agent, transferring to Southampton in the same capacity in 1938. From 1943 to 1945 he was on loan to the Ministry of War Transport, returning to the C.P.R. in 1946 as Assistant to the European Passenger Manager. He was promoted to General Passenger Agent in 1946.

Mr. H. E. Daman, Divisional Engineer, Taunton, G.W.R., 1917-32, whose death, at the age of 82, we recorded briefly in our July 11 issue, became a pupil of the late Mr. W. H. D. Robotham, then Divisional Engineer, Wolverhampton, in 1891, on the recommendation of the late Sir James Inglis. On the conclusion of his pupilage in 1894, he was appointed an Assistant in that Division, and continued in that capacity, mainly engaged on permanent way work and the reconstruction and strengthening of bridges and various new works until 1910, when he was appointed Chief Assistant to the late Mr. W. Sutcliffe Marsh, Divisional Engineer, Taunton. In this capacity he had charge of the reconstruction and enlargement of Exeter St. David's Station in 1911-12, in addition to general maintenance, relining of tunnels and other works arising from war conditions. In 1917, on the death of Mr. Marsh, he was appointed to succeed him as Divisional Engineer. Mr. Daman was responsible for the reconstruction and enlargement of Newton Abbot and Taunton stations and surrounding works. In 1919 the Taunton Division was extended below Exeter to include the main lines and branches as far as Totnes, involving the maintenance of the sea defence works and walls in the neighbourhood of Dawlish and Teignmouth. Mr. Daman retired from the G.W.R. service in 1932.



The late Mr. E. S. Taylor

Engineer of Signals, Canadian Pacific Railway, 1946-52

We regret to record the death on June 28, at the age of 63, of Mr. E. S. Taylor, Engineer of Signals, Canadian Pacific Railway. He joined the C.P.R. at Montreal in 1910 as Signal Inspector, after several years' experience with the Delaware & Hudson Railroad. In 1915 he was appointed Assistant to the Signal Engineer at Montreal, C.P.R., and later was made Signal Supervisor for the Quebec District. In 1926 he became Signal Engineer for Eastern Lines and in 1946 was appointed Engineer of Signals, Canadian Pacific Railway. He was a member of the Signal Section, Association of American Railroads, and had been a committee chairman.

Mr. G. Clark, Acting Production Engineer (Acton Works), London Transport Executive, who, as recorded in our May 30 issue, has been confirmed in that position, is 56. He entered the service of the London Electric Railway in 1923 as a junior engineering assistant and became Section Engineer in 1927. He was appointed Assistant Production Engineer in 1937 and Acting Production Engineer (Acton Works), last year.

Captain F. Ardern, D.S.C., a Younger Brother of Trinity House, who has been appointed District Marine Manager & Harbour Master, Holyhead, London Midland Region, British Railways, was educated at Watford Grammar School and Lower School of John Lyon, Harrow. He began his sea career in the training ships *Carpentaria* and *Woodarra*, served as Fourth to Second Officer with the P. & O. Steam Navigation Company and obtained his Master's Certificate, Foreign Going, in 1928. Two years later Captain Ardern joined the L.M.S.R. as a Second Officer on the Heysham-Belfast mail service and was promoted Acting Master in 1938. From July, 1940, to January, 1946, he served with the Royal Navy and commanded corvettes and frigates. Captain Ardern was awarded the Distinguished Service Cross and twice mentioned in despatches. He subsequently became Captain of H.M. Dockyard at Vizagapatam, India. In 1946 Captain Ardern resumed command in the Heysham-Belfast service after his demobilisation, whence he has now taken up his new appointment.

Ministry of Transport Accident Report

Near Weedon, September 21, 1951: British Railways. London Midland Region

Lt.-Colonel G. R. S. Wilson, Chief Inspecting Officer of Railways, Ministry of Transport, inquired into the accident which occurred at about 11.15 a.m. on September 21, 1951, near Weedon, London Midland Region, when the 8.20 a.m. express, Liverpool to Euston, composed of 15 bogie coaches drawn by 4-6-2 engine No. 46207, travelling at 60 to 65 m.p.h., left the rails. On leaving the transition of a curve of about 50 ch., the leading bogie, which had a defect, became derailed to the right. This was not noticed and the train continued forward for more than ¼ mile without serious damage to the flat bottom track, until bull-headed rails were reached. The bogie then began to smash chairs and break up the track.

The engine went down the 12 ft. embankment and wreckage of the front coaches was severe. Seven passengers and a dining car attendant were killed and seven other passengers fatally injured. Twenty-six passengers, the driver, and 9 members of the dining car staff were admitted to hospital, of whom 15 were discharged the same day. Twenty-five others sustained minor injuries or shock.

The accident was seen at Heyford box, 950 yd. ahead, and the down "Royal Scot" express stopped. Wires northward were severed, but a message was got through to Control *via* Blisworth. A large amount of assistance of all kinds was speedily forthcoming. All the injured were on their way to hospital by 12.15 p.m. Success of the relief work generally was due in no small measure to plans drawn up by the Railway Executive in conjunction with the police all over the country for dealing with such emergencies.

Intensive work by breakdown and relaying gangs enabled the lines to be reopened at 5.30 p.m. the next day. Crane work was hampered by the embankment and nine coaches had to be set aside, to be removed later. Removal of the engine could not be completed until October 28.

The weather was fine and rails dry.

The Track

The material on the last 710 yd. of the curve and the straight nearly to the tunnel was 131 lb. f.b., followed by a length of 109 lb. f.b. and then by 95 lb. b.h. rail. The 131 lb. rails were laid experimentally in 1939 with clip fastenings on rolled steel bearing plates, coach-screwed to timber sleepers, 24 per 60 ft. rail. This was replated in 1949 with cast iron bearing plates, as used for the 110 lb. rails, and elastic spike fastenings. The curve was last surveyed re-aligned and recanted in 1941.

A leaving transition of 270 ft. is provided, in which cant is run down on a gradient of 1/540 from the 5¼ in. on the last part of the circular curve where radius is 48 ch., a theoretical or equilibrium cant for 65 m.p.h., a deficiency of 1¼ in. for the 75 m.p.h. maximum speed now permitted. Within this limit there is no restriction on any of the reverse curves here. The usual speed of up trains is 65 to 70 m.p.h.

The low rails on the curve were not much worn, but side wear on the high rails was nearing the permissible limit; some rails had been changed, owing to development of cracks in the web at the joints, and a piece had broken out of a rail end. For these reasons the track as a whole had been proposed for renewal in 1953. Most gauge, etc., variations appeared to be due to loose fit of the feet of the 131 lb. rails between the shoulders of the 110 lb. bearing plates; the rails did not appear to be moving laterally under traffic. There was no sign of plates moving on the sleepers. A few elastic spikes were beginning to work loose. Alignment of the circular curve appeared to the eye to be very good. Stone ballast was ample, with good shoulders, more or less clogged with dirt. Regularity was well maintained on the circular curve, but not so well on the transition. The last Hallade test was taken on April 11, 1951, at approximately 70 m.p.h. and indicated no serious fault.

The engine, *Princess Arthur of Connaught*, Class "8P," was built at Crewe in 1933. It had run 980,537 miles since 1935, 135,395 since the last general repair in May, 1949, 81,405 miles since re-turning of tyres to restore profile at a "heavy intermediate" repair in May, 1950, and 39,985 since axleboxes were refitted at a "casual" repair in March, 1951.

Changeover of Bogie Axles

At a routine examination a few days before the accident the left leading bogie wheel flange was found to be wearing sharp and the two bogie axles and axleboxes were changed over while the engine was at Edge Hill, and the train concerned in the accident was the first it had worked since. Subsequent examination at Crewe disclosed that the leading axleboxes were too tight in the horn guides. This was the cause of the derailment.

Evidence

After various signal checks the train passed Rugby at 10.58, 16 min. late. Certain signal box timings indicated average speed from Rugby to the point of derailment to have been 54 m.p.h., for which a maximum of about 65 would be required through Weedon. The driver's estimate was thus not far out. He said he was running with regulator slightly open and gear at 15 per cent. cut off; with the slight rise to the tunnel, speed might have come down to 60 m.p.h. at the moment of derailment of the train itself. He is 52, with 13 years as driver and long experience of this route, driving between Euston, Liverpool and Manchester for 6 months, often with engines of this class.

Riding was good and comfortable round the Weedon curves, with no unusual noise or lurching. Soon after the tunnel he began to feel a shaking at the front and remarked that something seemed wrong with the bogie, shut the regulator and applied the brakes fully, but they became derailed, and it was all over in a few seconds. When told of track distortions found between the curve and the tunnel, he remained unshaken that he felt nothing unusual until the last.

The fireman, who had detailed knowledge of the road, generally confirmed this. He noticed no abnormal noise or oscillation, until the driver spoke to him; he then saw sparks and dust flying from the front. He went forward to Heyford box to warn the signalman.

The guard felt nothing unusual until a severe lurch just before the coach came to rest. A ticket collector and a driver in the train noticed no unusual movement before the tunnel, but other persons did, all agreeing it was followed by smooth running through it.

The acting assistant guard said riding was very rough with a "rattling noise and side to side movement" just before the tunnel. He would have reported it at Bletchley, but it was not bad enough to stop for. Two men in the kitchen car spoke of violent lateral oscillation before the tunnel, which broke crockery and threw pots off the stove. A travelling carriage cleaner, with the guard in the rear brake, felt "a bit of wobbling" and remarked about it; the guard did not reply.

Two passengers, in letters to Colonel Wilson, mentioned violent lurching.

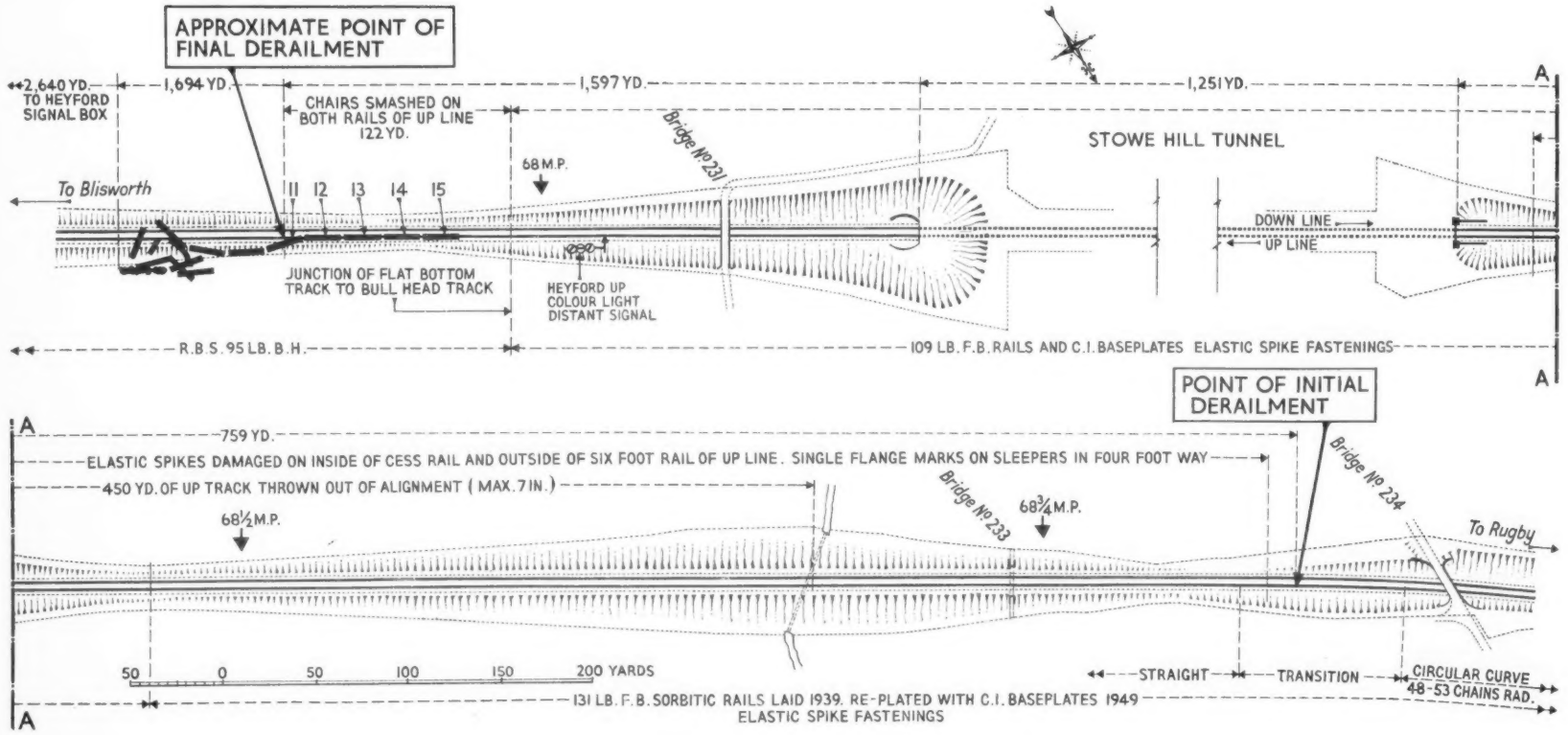
The crew of the preceding train noticed nothing amiss.

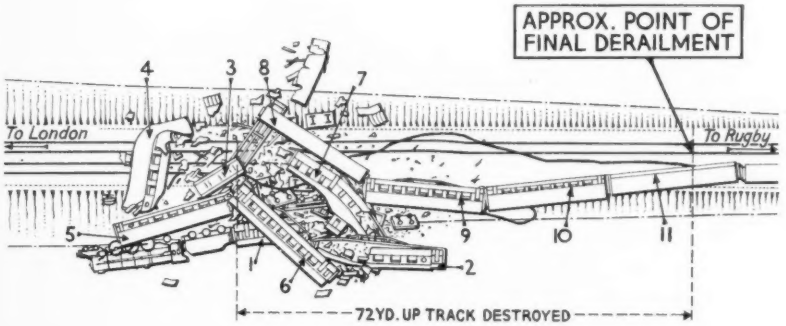
The evidence of the District Engineer and Chief Permanent Way Inspector was to the effect that the road generally was good. Variations of cross level required attention but not urgently. They would not account for the derailment. The permanent way inspector was well satisfied with the alignment, gauge and cross level, inspected carefully 6 weeks, and cursorily 10 days, before it. He spoke highly of the ganger.

The ganger had a full strength gang. The low rail particularly, of both tracks, required fairly frequent attention for level, but alignment gave little trouble. He had had very little trouble with gauge since the rails were "replated" and refastened with elastic spikes in 1949. On September 12 he did some re-packing. He first trimmed the high rail and adjusted the low to correct cant by shovel packing with chippings, leaving the joints a little high; one of them might not have gone down quite as much as expected. A few were apt to be troublesome after wet. He had heard no complaints about running on the curve and none had reached the district engineer.

The only engine wheels marked to indicate continuous damage to the elastic spikes were the bogie leading, with the heavier signs caused by breaking chairs. It was established that those wheels had become derailed to the outside of the transition curve where the first mark was observed, and that no others were until bull-head track was reached. There was no reason to question the engine's weight distribution; it was in very good general condition. Axleboxes were of solid bronze with white metal linings in journal bearings, and on flat surfaces working against wheel bosses and the steel horn guides. All journals and bearings were in excellent condition, with no sign of overheating. Coupled and rear carrying boxes were a good working fit in the horn gaps and had been rising and falling freely. It was found, however, that both leading bogie axleboxes were much too tight in the fore and aft direction. The trailing ones were very slack with more than $\frac{3}{32}$ in. play on the right-hand side. Measurements across the white metalled faces and between horn gaps were taken with micrometers, with long hornstays bolted up; the results are summarised in the accompanying diagram.

There was an interference of $\frac{17}{1000}$ in. between leading right-hand box and guide—the wheel initially derailed—and on the opposite side the figure was $\frac{12}{1000}$ in.


APPROXIMATE POINT OF FINAL DERAILMENT
2,640 YD. TO HEYFORD SIGNAL BOX
1,694 YD.
CHAIRS SMASHED ON BOTH RAILS OF UP LINE 122 YD.
1,597 YD.
1,251 YD.
A
Bridge No 231
STOWE HILL TUNNEL
68 M.P.
To Blisworth
11 12 13 14 15
DOWN LINE
UP LINE
JUNCTION OF FLAT BOTTOM TRACK TO BULL HEAD TRACK
HEYFORD UP COLOUR LIGHT DISTANT SIGNAL
R.B.S. 95 LB. B.H.
109 LB. F.B. RAILS AND C.I. BASEPLATES ELASTIC SPIKE FASTENINGS
A
POINT OF INITIAL DERAILMENT
759 YD.
ELASTIC SPIKES DAMAGED ON INSIDE OF CESS RAIL AND OUTSIDE OF SIX FOOT RAIL OF UP LINE. SINGLE FLANGE MARKS ON SLEEPERS IN FOUR FOOT WAY
450 YD. OF UP TRACK THROWN OUT OF ALIGNMENT (MAX. 7 IN.)
Bridge No 234
Bridge No 233
68½ M.P.
68¾ M.P.
To Rugby
50 0 50 100 150 200 YARDS
STRAIGHT
TRANSITION
CIRCULAR CURVE 48-53 CHAINS RAD.
131 LB. F.B. SORBITIC RAILS LAID 1939. RE-PLATED WITH C.I. BASEPLATES 1949 ELASTIC SPIKE FASTENINGS
A

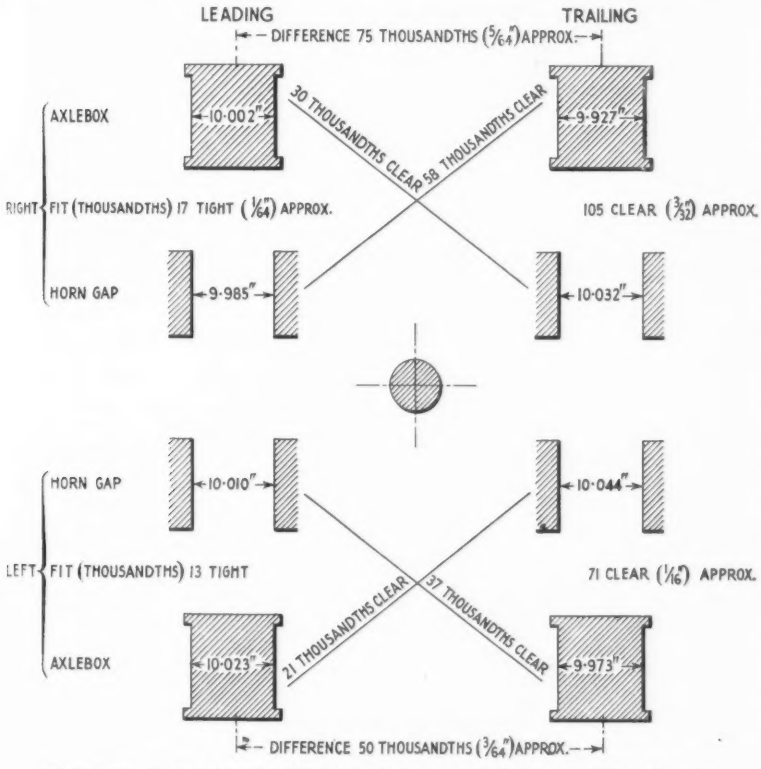


Above: Drawing showing layout and type of track, with details of fittings, markings, damage and other circumstances involved in derailment near Weedon on September 21, 1951

Left: Enlarged drawing showing final positions of overturned engine and wrecked vehicles in front part of the train

Expansion under running warmth might have increased tightness by $\frac{3}{1000}$ or $\frac{4}{1000}$ in. When the bogie frame was inverted with hornstays removed it was possible to "enter" each of the leading axle boxes into its horn gap, but neither would fall into place under its own weight and several blows with a heavy hammer were necessary to drive it down. With hornstays bolted on both axleboxes were tightly locked.

The ample clearances existing between all 4 boxes and guides *before* the changeover are shown diagonally on the diagram. Standard clearance in new work, or at shop refits, is $\frac{19}{1000}$ to $\frac{17}{1000}$ in. and nominal dimension of the horn gaps and axleboxes when new is 9·75 in. Enlargement was due to wear during life of the bogie, as corrected at successive refits by renewal of



Clearances in axleboxes and guides before and after changeover of axles

axlebox face linings and grinding of horn faces to restore truth.

It has been the practice for a long time on the L.M.S.R., now London Midland Region, to change bogie wheels from front to back at the sheds (in some cases from right to left) to even out tyre wear and keep engines in traffic. The report gives details of exactly how this is done, the fitter using inside and outside callipers, to see that boxes have sufficient clearance in the "new" horns. Comparison of box dimensions by outside callipers serves as a good indication whether either is likely to be too tight. Risk of binding must, of course, be avoided. No great refinement of fit is otherwise necessary with boxes not subject to piston thrust.

On September 19 a fitter had to strip the bogie for this change, but, after doing certain preliminary work, was put on another job. The actual changing was done by another who is 47 and was appointed a grade 1 fitter in 1939. He had been employed on wheel dropping since 1946, and said he was thoroughly experienced at it but had not dealt with an engine of this class before. He felt sure that the original "back" boxes had not been too tight in their new positions and that fore and aft clearance might have been $\frac{1}{16}$ in. and for the original front boxes in their new position at the back $\frac{1}{16}$ or $\frac{3}{32}$ in. He was sure none was tight; that was "one of the main things" to look out far. He had many times found boxes too big to go up in the horns, in which case he would usually leave them in their original horns and change over the axles only. This would require re-fitting of journal bearings and if he had any difficulty he would consult a supervisor.

Interviewed again later this fitter could not account for the tightness. He detailed to Colonel Wilson the process of the work and his use of the callipers, but it was difficult to ascertain how he made his comparisons; at one time he said that the inside callipers set from the horns had a clearance in the outside calliper setting from the boxes, which would mean an interference fit. When the considerable differences found were pointed out he said he did not, as a first step, compare these dimensions with outside callipers as an indication whether either box was likely to be too tight, although he had done so on other occasions.

The "new" leading axle went up smoothly into the front horns, right to the top, and he made sure that it dropped again. He always moved the drop table up and down once or twice to make sure no box was binding. He was not pressed for time and had no difficulty in seeing what he was doing. He was genuinely at a loss to explain the position. Had he found the conditions to have been as stated to him he would have called the supervisor, as on previous occasions.

When the other fitter came on duty again the axles had been changed over and he had to replace the long hornstays, front guides and cylinder cock pipes. He had no difficulty in getting the hornstays on and screwed up the nuts as tightly as he could. He had no other responsibilities on this particular job. He was experienced in this axle changing on another class of engine and gave details of how he worked, which were more precise than those of the other man.

An examining fitter inspected the engine drawn away from the drop pit, on September 20, but it was not possible for him to detect whether any bogie axle box was too tight.

The foreman fitter said such axles were changed over about once or twice a month. The right way to set about it was to compare axlebox measurements with outside callipers as one of the fitters had described. He had not told the men to do this and assumed they knew it from long experience, but the fitter who made the actual change should have done so, and reported if he found as much as $\frac{1}{16}$ in. difference between front and rear boxes. If there was $\frac{1}{32}$ in. difference the larger box should be machined or filed down. When told that neither fitter had said anything about removing metal he replied that it was more usual for boxes to be kept to their original horns in such circumstances and be refitted to the "new" journals. The engine would then have to go for a trial run for "breaking in again."

He could not suggest how the fitter came to make his mistake except that he might have put his callipers across boxes and horns "out of line," but he did not think such an experienced man would do that. Asked whether he would usually leave such important work to a fitter without supervision, he replied that if there was any difficulty the fitter would call the attention of the shift supervisor or himself. If things were going right fitters would not be interfered with, he could not get round to see all 50. As a rule hornstays should be in position when horn gap measurements were taken. This should apply, he thought, to bogie horns as well as those of coupled wheels. He could not explain why it was not being followed. Both fitters were good workmen but the one who changed the axles was inclined to be erratic and become flustered if things were not going right.

Chief Inspecting Officer's Conclusion

The derailment of the leading bogie wheels was brought about by lack of freedom of the axleboxes in the horns. It took place on what was probably the strongest track material in the country, well maintained. Alignment left little to be desired and inequalities of cross level were such as might have been expected with a certain degree of wetness in the formation. Colonel Wilson is satisfied that the best had been done under the local conditions, which were not exceptional. No undue rolling was felt by the enginemen nor by any of the crew of the preceding express. The type of engine has been in use for 17 years with a particularly good reputation for steady running. The long parallel 16 ft. flange mark proves that there was no abnormal side thrust as the wheel came off. The bogie was performing its normal function steadily as it left the curve. The faint character of the mark suggests that the leading wheels had been relieved of load. They had been severely restricted in rise and fall by the tight fit of the axle-

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boxes. While probably inequalities of cross level provided the ultimate occasion for relief of load, it would be wrong to suggest that the track was responsible for the derailment of an engine with such a defect. The risk had been a pretty continuous one; no one can say how nearly it had been avoided at other points.

The changeover of the axles had been mismanaged. It should have been well within the capacity of a skilled man of this fitter's long experience. His mistake would have been avoided if, first of all, he had ascertained the considerable difference between the fore and aft dimensions, as he had done on previous occasions. He seems to have appreciated that he should consult his supervisor if he found a box unduly tight or much too slack in their new positions. It is difficult to understand why he did neither of these things. His record hitherto had been good and he seemed conscientious, but obviously he was not a clear thinker; he may have fallen into the simple error of interpreting a difference the wrong way round and what he thought was a clearance of $\frac{1}{64}$ in. was really an interference fit. That he had no difficulty in pushing up the overlarge boxes, which came down again under axle weight, may be explained by lack of rigidity in the horn block assemblies with lower ends unsupported by the long hornstays. Horn gap measurements without the stays could not be very reliable with this type of frame, but in the absence of definite instructions that they should be taken with stays bolted up, the fitter cannot be blamed for not doing so, especially as his experience was confined to plate frame engines, where this does not so much apply.

Colonel Wilson feels there had not been sufficient direct supervision of an operation bearing so much on safe running and finds it difficult to accept the foreman fitter's contention about inability to get round. Such work was done, at most, two or three times monthly. It appears, however, to have been accepted for a long time that axlebox clearances should be left to the workmen's discretion, with no standard procedure for their guidance.

It is understandable that the enginemen should have noticed nothing until bull-headed track was reached. Such a thing is not necessarily noticed on a large engine; in this case the wheels were meeting with little obstruction. Track distortion for some 450 yds. north of the tunnel was initiated by lateral oscillation as the engine ran with loss of guiding effect. High ballast resistance in tunnel and cutting probably prevented it continuing. It is difficult to say to what extent this was felt, but Colonel Wilson is satisfied that the enginemen spoke in good faith. Rough riding was felt in the train, but the crew is not criticised for failing to take action immediately.

Remarks

Although axle transposition has been carried out for many years, this accident draws attention to the need for better regulation of the work done at sheds under different conditions from those in main workshops with closer control facilities. This has now been appreciated and instructions were at once issued that no changing should be done without personal authority of the Divisional Motive Power Superintendent. The practice has hitherto been confined to the London Midland Region and the Railway Executive is considering whether to standardise it, or discontinue it as not worthwhile. Colonel Wilson sees no inherent objection to continuance, provided adequate precautions are taken.

Running shed fitters, though generally skilled and experienced, are liable to human failure. This accident shows that it is not sufficient to leave clearance standards and methods of procedure in such work to fitters' discretion, and place on them the onus of consulting a supervisor if they think it necessary. If it is decided to continue axle changing these standards, etc., should be fully and precisely laid down, and final responsibility for compliance rest with a senior supervisory staff member.

Inside and outside callipers cannot be really satisfactory for checking these clearances, especially in older depots where lighting is not of the best. Such large-sized ones are comparatively heavy and clumsy. It is not easy to judge by the eye such small differences as $\frac{1}{64}$ in. or $\frac{1}{32}$ in. between internal and external settings, especially in cases where the internal is the larger.

Nor is it practicable to transfer settings to a steel rule and read off differences. Some means should be provided to enable actual differences between horn gaps and axle-boxes to be readily determined in units of measurement.

Simplified micrometers are under consideration, but whatever method is decided on, effective supervision must be relied on in the long run to ensure engines going out in safe condition. This accident has shown that flat bottom track, besides having increased lateral and vertical strength compared with bull-headed, is less vulnerable to damage by derailed wheels.

Mechanical Handling in S.P.D. Depot

Extensive palletisation in distribution centre served by rail and road

The new distribution depot of S.P.D. (Speedy Prompt Delivery) Limited, the warehousing and distributing company of the Unilever organisation, at Aylesford, Kent, was formally opened by Sir Geoffrey Heyworth, Chairman, Unilever Limited, supported by Mr. A. G. Marsden, Transport Adviser to the Board of Unilever Limited, on July 8. This is the second of 38 depots to be built throughout the country; the first was opened at Stockton on March 2, 1951. The depot is served by a siding off the Maidstone-Strood line, Southern Region. Much of the inwards traffic is railborne, with outwards traffic conveyed almost entirely by S.P.D. road transport.

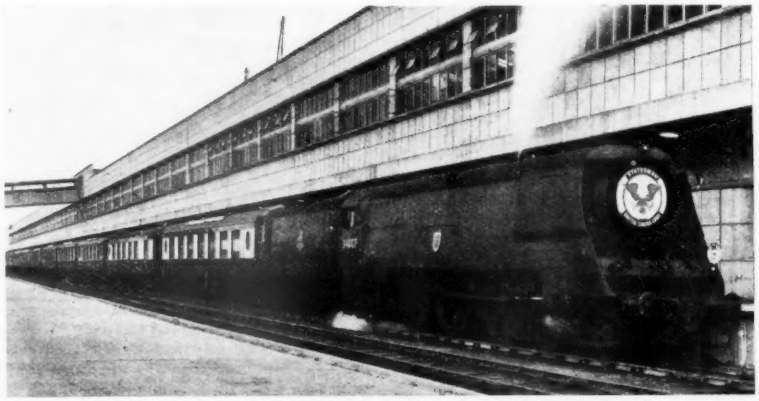
Palletised Loads

Clear headroom of 17 ft. permits storage up to a height of 16 ft., *i.e.*, of goods in four tiers of pallets. Pallets used are of softwood, 48 in. × 40 in., four-way entry, made to S.P.D. specification, which can be conveyed by British Railways covered vans. The handling equipment comprises battery high-lift fork truck, Industrial Truck Development Limited Stacatruc Model 30 EH/12, with Exide type TL 11D battery, capacity 25 cwt. at 24-in. centres, and 12-ft. lift; and Lansing-Bagnall Limited Model P.P.O. 434C pedestrian-controlled battery electric power pallet trucks, with Exide type XHV.13 battery, capacity 2 tons and travel speed up to 4 m.p.h.

Palletisation has enabled 67 per cent. of the total warehouse space of 2,250 sq. yd. to be used for stacking, with 12-ft. aisles—their distance to be decreased as staff acquire skill in using the equipment. Storage capacity is 2,000 tons (miscellaneous products). Distribution is 400-450 tons per week, for which eleven 5½-ton Commer vans are used. A platform accommodates eleven railway wagons. There are loading bays for nine delivery vehicles, and self-contained garages.

The warehouse was designed for palletisation and built to the requirements of S.P.D. Limited by C.A.S. (Contractors) Limited. The electrical installation and layout was designed by the electrical engineering section of the Technical Division, Unilever Limited. The warehouse has a steel frame construction with clear headroom of 17 ft. below girders. The brick walls have been treated internally with Vermiculite (exfoliated mica) plaster.

The "Statesman" at Southampton



The Southern Region "Statesman" at Southampton Docks on July 8 to connect with the first sailing of the new United States Lines liner "United States"

Parliamentary Notes

Transport Bill

Captain Harry Crookshank (Lord Privy Seal) announced in the House of Commons on July 10 that as the Transport Bill had only just been published and members would want time to consider its detailed proposals, it was not intended that it should be read a second time this summer. It was considered preferable and for the convenience of the House that the committee stage should follow the second reading after a normal interval, and not nearly three months later. The Government therefore would proceed with the Transport Bill next session, when it would be the first business to be dealt with.

British Transport Commission Bill

The British Transport Commission Bill, read for the third time and passed in the House of Commons on June 26, was reported to the House of Lords on July 8 with amendments.

Questions in Parliament

Forest Fires

Colonel Sir Leonard Ropner (Barkston Ash—C.) on July 3 asked the Minister of Agriculture what was the number of forest fires since September 30, 1951; and how many had been caused by railways.

Sir Thomas Dugdale wrote in reply: There have been 966 fires, of which 681 were caused by railways.

French Underground Railway Interests Abroad

The former Paris Metropolitan Railway Company (Compagnie du Chemin de Fer Métropolitain de Paris, now known as Société Générale de Traction et d'Exploitation) whose system was taken over by the Paris Transport Board (Régie Autonome des Transports Parisiens) has subsequently been interested in planning underground railway schemes in overseas cities. Some details of the projects appeared in our June 10, 1950 issue.

It is reported that the Bengal Government is still withholding permission for the company to start the work on the Calcutta underground railway; this scheme has now been included in the general five-year plan of Bengal. In June, 1951, the company lent an engineer to the Egyptian State Railways with a view to a joint study of the electrification of Cairo suburban lines. Tenders are now invited for this scheme.

Lisbon Project

Contact with the Lisbon municipality in connection with a proposed underground railway continues to be maintained despite difficulties, and it is expected that the company will be consulted when the decision to proceed with the scheme is taken. So far, tenders invited by the municipality of Montevideo for the building of the first line (about 5½ miles long) of a proposed underground system, have yielded no results. Further tenders are to be opened on July 30. The provisions of the contract obtained by the company from the Prefecture of the Rio de Janeiro Federal District for a preliminary scheme for a Rio de Janeiro underground railway, have been fulfilled within the prescribed time. It is believed that the company will shortly be entrusted with working out the final project.

The company has been successful in concluding an agreement for a trolleybus system at Niteroi, across the bay of Rio de Janeiro. Similar schemes in other towns in Brazil are under consideration.

A special mission, sent out by the company in 1951, has been in touch with the authorities concerned at Lima, Carácas, and Santiago de Chile, in connection with local underground railway schemes.

Staff & Labour Matters

W.R. Shed Maintenance Staff Dispute

The difficulties in providing engines for passenger and freight trains in the Western Region continued over last weekend and earlier this week as a result of the "go slow" by locomotive shed maintenance staff, mentioned in last week's issue.

The men have protested that the recent increase of 8 per cent. awarded by the Railway Staff National Tribunal, with effect from September 3, 1951, is not being taken into account in assessment of piecework earnings. A similar protest has been made over the national wages award, operative from June 30, 1947.

Under these awards, extra payments conceded are paid to the men concerned as additions to the basic rate, but do not involve adjustment in piecework, tonnage, or bonus payments for any grade of railwaymen. The men have adopted their restrictive methods by reverting from piecework to timework against the advice of N.U.R.

The conditions attaching to the national wages awards necessarily take precedence over any local agreements, and allegations that local agreements have not been honoured or have been violated are without foundation.

Statement by Western Region

In a statement by the Western Region, it is pointed out that the management does not insist on employees working on a piecework basis; that system of working, however, holds out mutual advantages, and the management does not believe that the majority of the individuals concerned in the present difficulty genuinely desire to surrender benefits in the form of additional earnings. Although the basic weekly rate of pay for the staff concerned in this dispute varies from £5 10s. 6d. to £5 19s. 6d., their gross earnings range from £7 10s. to as much as £14 a week, according to their own efforts.

"If, however," the statement adds, "the staff concerned persist in their present attitude, the management must take such alternative steps as they may consider appropriate with a view to getting the work done and maintaining their service to the travelling and trading public.

"To their customers British Railways express regret for any inconvenience or annoyance which they may have experienced as a result of cancellation of, or delays to, trains, and would assure them that every endeavour will continue to be made to maintain normal services."

After a meeting on July 13 of representatives of eleven depots on the Western Region the men decided to continue their restrictive methods. The depots represented were Pontypool, Barry, Banbury, Cardiff (Canton), Bristol (Bath Road), Bristol (Philips Marsh), Plymouth (Laira), Worcester, Slough, Southall and Old Oak Common.

Earlier this week, representatives of the men conferred with Mr. Martin Pounder, Assistant General Secretary of the N.U.R., who discussed the matter with Mr. W. P. Allen, Member of the Railway Executive. Further meetings have been arranged as we go to press and early settlement is hoped for. Piecework has been resumed at some sheds.

N.U.R. Censures Transport Bill

At the N.U.R. annual conference at Scarborough on July 10, the General Secretary, Mr. J. B. Figgins, described the Transport Bill as one of the greatest menaces ever introduced into the British economy. A special resolution of the conference was unanimously passed condemning the Bill "as an act of sabotage inspired by selfish sectional economic interests." It called on all transport workers to unite and defeat the Government, and on the Labour Party to state clearly that on return to office it would restore transport to public ownership.

"We are not going to wait until we get political power," Mr. Figgins said. "We are going to challenge this Government to go to the country and justify its Bill. If it does, we are confident we shall be able to inflict a salutary lesson, no less great than that of 1945. We will fight politically on this issue, but if necessary we will fight industrially."

Contracts & Tenders

The Crown Agents for the Colonies have placed a contract with the Metropolitan-Cammell Carriage & Wagon Co. Ltd. for eight first class, 16 second class and 50 third class carriages, for the East African Railways & Harbours.

The Benguela Railway, Portuguese West Africa, has placed a contract with Charles Roberts & Co. Ltd., for 100 bogie dropside wagons and 30 bogie sugar-cane and wood-fuel wagons.

Krauss Maffei A.G., and the Maschinenbau Kiel A.G. are each delivering five 1,000 b.h.p. diesel-hydraulic locomotives to the German Federal Railway. Engine equipment is being divided among Maybach, Daimler and M.A.N.; and transmission equipment between Maybach and Voith.

The following contracts have been placed by British Railways, London Midland Region :—

Mellowes & Co. Ltd., Sheffield : recovering the roof over platforms Nos. 4 to 9 at Manchester Victoria Station, with patent roof glazing.

Johnson Ireton Limited, S.W.1 : supply, delivery and erection of steelwork for the re-roofing of platforms Nos. 4 and 5 at Preston Station.

Industrial Engineering Limited, London, W.1 : preparatory work before waterproofing of the general shed roof at Manchester, Oldham Road.

R. Hughes Limited, Salford, 7 : repairs to retaining walls of Warwick Road Station (passenger) (M.S.J. & A. line).

Two wagons for moving electrical transformers of exceptional size and weight have been ordered from Head, Wrightson & Co. Ltd. by the Railway Executive. The wagons, which are two of the biggest ever designed for use in this country, will each have 24 wheels, be 92 ft. long, and be capable of carrying a concentrated load up to 135 tons.

Traversing mechanism will be provided to enable these loads to be moved to either side of the wagon to pass fixed structures such as bridges, centre girders on bridges, and signal posts. The wagons are expected to be in service by the late autumn.

The 21 "M4AA7" engines which, as recorded in our July 4 issue, have been ordered from the National Gas & Oil Engine Co. Ltd. by the Drewry Car Co. Ltd., are for locomotives being built for the New Zealand Government Railways by the Drewry company, and not for railcars.

The Crown Agents for the Colonies, on behalf of the Nigerian Government, have placed a contract with Dorman Long & Co. Ltd. for a suspension bridge over the Cross River, Nigeria. The site of the bridge, which will carry the only road joining the Eastern Provinces of Nigeria to the British Cameroons, is about 120 miles from the West African Coast.

The overall length of the bridge will be 590 ft. and the main span over the gorge through which the Cross River flows will be 350 ft. The deck will be 90 ft. above normal low water level. The value of the contract, which will require 500 tons of steel, is £315,000. The Consulting Engineers are Messrs. Coode & Partners, London.

The United Kingdom Trade Commissioner at Johannesburg has notified the Board of Trade, Commercial Relations & Exports Department, of two calls for tender issued by the South African Railways for :—

Tender No. C.4796

40 electric distant repeaters with swallow tail arm.
40 electric outer home repeaters with pointed arm.
20 electric home repeaters with square end arm.
100 circuit controllers for signal repeaters.

Tender No. C.4801

250 d.c. lamp proving relays.

Tenders should reach the Chief Stores Superintendent, Johannesburg, by 9 a.m. on Wednesday, July 30. A copy of the tender documents, including specification, is available for inspection by representatives of United Kingdom manufacturers at the Board of Trade until July 19, after which date they will be available on loan in order of written application.

The Board of Trade, Special Register Information Service, has recently reported a call for tenders by the Belgian National Railways for the supply of two self-propelled trolleys for the inspection of catenary lines. Tenders should reach the Belgian National Railways, Brussels, by 2.30 p.m on Wednesday, September 3. A copy of the tender documents in French is available at the Board of Trade, Commercial Relations & Exports Department, for inspection by representatives of United Kingdom manufacturers until August 2. After this date it will be available on loan in order of written application; reference CRE/23989/52 should be quoted.

CAIRO-DAMIETTA EXPRESS DERAILED.—An agency message from Cairo reports that a Cairo-Damietta express was derailed on July 15 near Tanta. Several passengers were stated to have been killed and there were many injured.

Notes and News

Vacancy for Machine Shop Foreman.—Applications are invited for the post of machine shop foreman, between 25 and 40 years of age, required by the Sudan Railways for service in the Sudan. See Official Notices on page 83.

Unusual Crossing Accident in Germany.—A motorist was killed at a level crossing near Frankfurt on July 9, Reuters reports, when a gust of wind blew open the barrier closing the road. The motorist, blinded by a cloud of dust, drove on into the path of an approaching train.

New Address of Nife Batteries London Sales Office.—The London Sales Office and the Railway Signalling Department of Nife Batteries, Redditch, Worcs., have just been transferred from 50, Grosvenor Gardens, London, S.W.1, to new premises at 53, Victoria Street, S.W.1. The telephone number and telegraphic address are: Abbey 1412 and Niandfe, Sowest, London.

Closing of Staveley Town Station.—Staveley Town Station, Eastern Region, will be closed on August 5. Alternative facilities are available for passengers at Staveley Central Station and there are frequent road services in operation in the area. Parcels traffic will be collected and delivered from Chesterfield Midland Station.

Diesel-Electric Locomotive Model.—The scale model of a 1,000-h.p. diesel-electric shunting locomotive, illustrated below, was first shown on the B.T.H. stand at the British Industries Fair, Castle Bromwich, where it attracted considerable attention. The British Thomson-Houston Export Co. Ltd. has on order for the New South Wales Government Railways ten of these locomotives (see our March 16, 1951, issue). As main contractor B.T.H. is co-ordinating the overall design and manufacture, for which the company is supplying the main and auxiliary generators, motors, and control equipment. Manufacture of the mechanical parts is being carried out by the Metropolitan-Cammell Carriage & Wagon Co. Ltd., and the diesel engines are being supplied by Davey, Paxman & Co. Ltd. Being required for handling very heavy trains on shunting and switching duty, the design tractive effort is 48,000 lb. at starting and 22,800 lb. continuous. Maximum road speed will be 57 m.p.h., which will permit the hauling of light branch line trains at comparatively high speeds.

Amsterdam-Basle Express Derailed.—Four persons were killed and 18 injured when the Amsterdam-Basle express was derailed near Thionville, on the former Alsace-Lorraine line in the Eastern Region on July 1. The cause of the accident is believed to have been distortion of rails through the heat.

Charles Churchill & Co. Ltd.—A final dividend of 10 per cent. to be paid on the ordinary shares of Charles Churchill & Co. Ltd. will bring the total for the year to March 31 up to 15 per cent. less tax. A preliminary statement shows an increase in net profit from £194,524 to £263,712. Profit attributable to the holding company rose from £157,321 to £185,143.

The "United States".—Members of the British Transport Commission, the Railway Executive, a number of officers of British Railways and representatives of shipping and transport interests were the guests of the United States Lines at luncheon on July 9, on board the *United States* after she had docked at the Ocean Terminal, Southampton on the completion of her maiden voyage. The principal guest and speaker was the American Ambassador, Mr. Walter Gifford, who proposed the toast "United States Lines," to which Major-General John M. Franklin replied. Viscount Runciman proposed the *United States* and Commodore Harry Manning replied to this toast and also proposed the health of the town and port of Southampton. The responses to this toast were made by the Mayor, Alderman E. Burrow, and Mr. Reginald P. Biddle.

Cruises on the Firth of Clyde.—The first evening cruise from Gourock since 1939 took place on Wednesday, July 9, when the paddle steamer *Jeanie Deans* left Gourock Pier at 7.10 p.m. for a cruise to Loch Long. The steamer sailed in connection with the 6.10 p.m. train from Glasgow Central and 6.22 p.m. from Paisley Gilmour Street, and called at Craigendoran and Kilcreggan. Afternoon cruises on the Firth of Clyde were also made the same week in addition to those shown in the advertised programme. They included a cruise by the turbine steamer

Scale model of British Thomson-Houston diesel-electric locomotive for the New South Wales Government Railways

OFFICIAL NOTICES

The engagement of persons answering Situations Vacant advertisements must be made through a Local Office of the Ministry of Labour or a Scheduled Employment Agency if the applicant is a man aged 18-64 inclusive or a woman aged 18-59 inclusive unless he or she, or the employment, is excepted from the provisions of the Notification of Vacancies Order, 1952.

WANTED "Diesel Railway Traction," May 19, June 16, December 29, 1933; February 23, September 7, October 5, December 28, 1934; April 19, 1935; April 17, 1936. Good prices offered. Write Box 534, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

THE NORTH BRITISH LOCOMOTIVE CO., LTD., require the services of an experienced Design Engineer to take charge of their Diesel Traction Design Office. Applicants approximately 35 years of age and upwards should have experience in the preparation of complete tenders including supervision of diesel locomotive project design, weight distribution and performance calculations. Good staff conditions prevail, also excellent Superannuation Scheme. Applications should be made to the Company, 110, Flemington Street, Glasgow, N., giving particulars in detail of training and experience.

BOUND VOLUMES.—We can arrange for readers' copies to be bound in full cloth at a charge of 25*s.* per volume, post free. Send your copies to the SUBSCRIPTION DEPARTMENT, Tothill Press Limited, 33, Tothill Street, London, S.W.1.

SUDAN GOVERNMENT

THE Sudan Railways require a MACHINE SHOP FOREMAN, aged 25 to 40, for service in the Sudan, to be in charge of the Locomotive Machine Shop. Candidates must have served a full apprenticeship, preferably in a Railway Works, and have a thorough knowledge of modern machine shop practice. Experience in machine maintenance and tool room work would be an advantage. Appointment will be on probation for Short Term Contract (with bonus) up to four years in the Salary Range £E 750 to £E.1,400. A cost of living allowance may also be payable. There is at present NO INCOME TAX in the Sudan. Free passage and outfit allowance of £E.50 on appointment. Further details and application form will be sent on receipt of a postcard only addressed to THE SUDAN AGENT IN LONDON, Wellington House, Buckingham Gate, London, S.W.1, quoting "M/S Foreman 1914" and name and address in BLOCK LETTERS.

JUNIOR TRAFFIC OFFICIAL with Railway Traffic apprenticeship experience required for the Southern Railway of Peru, age 20/25 years, single, knowledge of Spanish would be an advantage. Apply to the SECRETARY OF THE PERUVIAN CORPORATION LIMITED, 144, Leadenhall Street, London, E.C.3.

REQUIRED for the Central Railway of Peru, Railway Stores Assistant (Clerical). Qualifications: Secondary School Education and holding School Leaving Certificate, preferably with some previous commercial experience. Age from 23 to 30 years. Knowledge of Spanish desirable. Single man preferred with experience in a Stores Department of a British Railway or an Engineering concern. Apply to —THE PERUVIAN CORPORATION LTD., 144, Leadenhall Street, London, E.C.3.

A SALES REPRESENTATIVE is required for the promotion of sales of specialised products for the transport industry and the maintenance of sales contacts with locomotive builders, carriage builders, road vehicle operators, coach body builders, shipbuilders, etc., in the North of England and in Scotland. Though not essential, an engineering background and the ability to read engineering drawings would be an advantage. The post carries with it superannuation benefits and the representative would be required to reside in and operate from the Leeds district. Applications are invited from individuals having the necessary experience and qualifications and in applying, details of past experience should be given together with age and salary required.—Box 530, *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

REQUIRED for the Southern Railway of Peru. Locomotive, Carriage and Wagon Senior Draughtsman 30/35 years of age. Qualifications: Must have served a full general apprenticeship in an Engineering workshop (preferably Railway) and have had at least five years' drawing office experience with some time in an executive capacity. A knowledge of Spanish an advantage. Future prospects. Apply to the Secretary, PERUVIAN CORPORATION LIMITED, 144, Leadenhall Street, London, E.C.3.

N.E.R. HISTORY.—Twenty-Five Years of the North Eastern Railway, 1898-1922. By R. Bell, C.B.E., Assistant General Manager, N.E.R. and L.N.E.R. Companies, 1922-1943. Full cloth. Cr. 8vo. 87 pages. 10*s.* 6*d.*—*The Railway Gazette*, 33, Tothill Street, London, S.W.1.

Duchess of Montrose on Thursday, July 10, from Glasgow Bridge Wharf leaving at 2 p.m. for Dunoon, allowing over an hour ashore; and on Saturday, July 12, a cruise round Ailsa Craig by the same steamer from Gourock with train connection from Glasgow and Paisley.

J. M. J. Maus Limited.—J. M. J. Maus Limited, 35, New Broad Street, London, E.C.2, has been appointed agent for Harburger Eisen & Bronzewerke A.G., Hamburg-Harburg.

Leyland Motors Limited Holidays.—The Leyland, Farington and Chorley factories of Leyland Motors Limited will be closed for the annual summer holidays from tonight, July 18, until Monday morning, August 4.

Cupro-Nickel Alloys.—The Metals Division of Imperial Chemical Industries Limited has added Admiralty-quality 70/30 cupro-nickel to its Kunifer range of cupro-nickel alloys containing inclusions of iron and manganese. The I.C.I. trade name Kunifer originally referred to alloys having 5 per cent. to 10 per cent. nickel content, covered by the British Non-Ferrous Metals Research Association patent numbers 577065 and 578283, but, as the division's AE Super-Nickel condenser-tube alloy has for many years contained inclusions of iron and manganese in accordance with Admiralty Specification 3T. 102, to bring it into the Kunifer range (with the designation Kunifer 30), it is a natural measure of standardisation. The three alloys are distinguished by numerical suffixes indicating their nickel content.

Ribble Motor Services Limited.—Mr. R. P. Beddow, Chairman of Ribble Motor Services Limited, said at the company's recent annual general meeting that within a period of 18 months the cost of labour and materials essential for carrying on their business had increased at the "stupendous rate" of over £500,000 a year. Increased fares had been introduced but he thought that travel within their operating area was still as cheap or cheaper than was available in most other parts of the country. A further claim for wage increases had now been presented and if granted it would be necessary either to raise fares again or effect economies by substantial reduction in services, with a consequent reduction in the numbers of men and women employed.

Railway Bookstall Contracts.—Agreement has been reached between W. H. Smith & Sons Limited and the Railway Executive on the renewal of the company's main-line bookstall contracts for 21 years.

G.E.C. Scrip Bonus.—Consent was given recently by the Treasury to the issue by the General Electric Co. Ltd. of a scrip bonus of one new share for every £1 of ordinary stock held. The issue will capitalise £5,877,720 of the share premium reserve. The new shares will not participate in the final dividend in respect of the year to March 31 next, but will share *pari passu* in all ordinary dividends for 1952-53.

Glasgow Fair Specials.—On Thursday, Friday and Saturday, July 24-26, more than a hundred long-distance special trains will leave Glasgow stations with Glasgow Fair holidaymakers. The specials will take holiday travellers to Blackpool, Liverpool, London, North Wales resorts, Birmingham, the Midlands, Whitley Bay, Scarborough, York, Aberdeen, Inverness and the Far North, Oban, Fort William, and the West Highlands. In addition a special programme of direct services—by-passing the city—will be operated from many Glasgow district and Lanarkshire stations to destinations in Scotland and England. To speed the conveyance of passengers' luggage in advance, a series of "luggage only" specials will leave Glasgow next week for all parts of the country.

Closing of Holland Arms Station.—The London Midland Region announces that Holland Arms Station (Anglesey) between Amlwch and Gaerwen will be permanently closed for passengers, parcels, passenger train merchandise and freight traffic on and from Monday, August 4. Passengers should book to Llangefni, Gaerwen, or Bangor, according to the direction of travel, whence Crosville Motor Services operate road services between Bangor and Holyhead. Parcels and passenger train merchandise will be dealt with at Gaerwen and alternative arrangements have been made for handling all freight traffic. On and from the same date Skegby (for Stanton Hill) goods depot between Sutton-in-Ashfield Town and Shirebrook South will be closed for all traffic.

Engine Driver Acquitted on Drunkenness Charge.—At Lanark Sheriff Court on July 15 an engine driver was acquitted on a charge of having been drunk in charge of a goods engine on the Glasgow-Carlisle line at Cleghorn on May 2. The charge was found not proven, the Sheriff remarking that it was impossible to reconcile the evidence in the case. Reference to the Act of 1842 under which the charge was brought was made in our June 20 issue.

Associated Commercial Vehicles Limited.—Approval having been given at an extraordinary general meeting of Associated Commercial Vehicles Limited, the directors have decided to proceed with the issue of redeemable cumulative preference shares in order to increase the company's working capital. An offer is made to holders of ordinary stock on the register at the close of business on June 30, 1952, of 1,500,000 5½ per cent. redeemable cumulative preference shares of £1 each for subscription at par, payable in full on application. The purpose of the issue is to replace present short-term bank loans and acceptance credits by capital of a more permanent nature. A principal factor contributing to the need for this capital is the maintenance by the group of a proper balance of its stock of materials. In present circumstances it is often necessary to take delivery of large quantities of certain metals as and when they happen to be available.

Public Transport Association on Transport Bill.—A statement by the Public Transport Association welcomes the fact that the Transport Bill, as envisaged in the Government White Paper on Transport Policy, makes provision for repealing the scheme-making powers of the British Transport Commission and for limiting the powers

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of the Commission so that, as far as passenger road transport operation is concerned, the Commission will have to conform to the licensing procedure of the Road Traffic Act, 1930. The Association is also relieved to note that the London Transport Executive is to revert to the position occupied by the London Passenger Transport Board prior to the Transport Act, 1947. Concern is felt, however, that the Bill does not make it obligatory upon the Minister to direct the Commission, as quickly as is reasonably practicable, to divest itself of the control of those passenger road transport undertakings in which it now holds a controlling interest.

Strike of Gold Coast Enginemen.—On July 15, enginemen of the Gold Coast Railway began a strike for the same pay as that formerly given to European enginemen. The Government has been adamant that the men should try the new salary scale recommended by its Minister of Labour. The strike affects the port of Takoradi, the oulet for Gold Coast manganese, cocoa, and timber. Passenger services are also seriously affected.

Oil Engine Price Reductions.—A wide range of oil and petrol engines has been the subject of price reductions recently announced by R. A. Lister & Co. Ltd. A reduction of approximately one-tenth of the previous price applies to the new Freedom range of 8 h.p., 18 h.p., 27 h.p., 36 h.p. and 54 h.p. diesel engines and the 1½ and 2 h.p. "D" type petrol engines. Generating sets and pumping plant powered by these engines also are reduced in price. These reductions apply to all stocks at present held by dealers throughout Great Britain, including Northern Ireland and Eire.

Vacuum Oil Co. Ltd. Distribution System.—Expansion arising from good progress with the construction of Coryton Refinery and the launching of Mobilgas petrol and Mobil Diesel on the United Kingdom market early this year, have been the chief reasons behind the reorganisation of the Vacuum Oil Company's marketing and distribution network. The branches in Birmingham, Manchester, Sheffield and Newcastle have now been merged into two automotive and two industrial divisions, responsibility for the garage and agricultural dealers markets being vested in the former, whilst the latter will cater for all industrial and road transport interests. The Sheffield and Birmingham branches thus become the Midland Automotive Division (main office at Sheffield), and Midland Industrial Division (main office at Birmingham). Newcastle and Manchester are merged to become the Northern Automotive Division (main office at Newcastle) and the Northern Industrial Division (main office at Manchester). The two London branches become Southern Automotive Division and Southern Industrial Division, and continue at their former addresses. The existing automotive-industrial branches are being retained in Belfast, Glasgow, Cardiff and Bristol. The Marine branches, established in London, Newcastle, Glasgow, Liverpool, Cardiff and Hull to supply the needs of shipping also remain unchanged.

Forthcoming Meetings

July 20 (*Sun.*).—British Railways, Southern Region, Lecture & Debating Society, social cruise on the Thames between Windsor and Marlow.

Railway Stock Market

The rally in stock markets showed signs of broadening, though attention again centred mainly on British Funds and industrial shares. Sentiment was helped by the sharp rise in the value of the pound in terms of U.S.A. dollars, and by the belief that by the end of the year the process of rebuilding the sterling area gold and dollar reserves will have made progress.

Stock markets are taking a hopeful view that the latest indications are that the recession in the textile and other industries in the past six months is temporary and not the beginning of a general slump. It is assumed that the problems arising from mounting costs are likely to become less acute by the end of the year. There remains the problem for many companies of raising additional finance now there is little prospect of increasing bank loans, though if the rally in markets continues, conditions will become favourable for public issues.

Antofagasta stocks were favoured, the preference stock attracting because of the view that the rate of paying off the arrears of preference dividend may very well be increased as time proceeds. Even on the basis of payments of 5 per cent. per annum the preference stock, which has strengthened in price to 54½, offers an attractive yield of 9 per cent. The ordinary stock improved to 13.

United of Havana stocks kept their newfound firmness. The 5 per cent. debentures were 17, the 4½ per cent. Cuban debentures 41½, and Havana Terminal debentures 60.

San Paulo 10s. units remained more active but at 13s. failed to hold best prices. Brazil Rail bonds have been firm at 6½. Leopoldina ordinary and preference held at 11½ and 28½ respectively. Leopoldina Terminal debentures have been steady at 20 with the ordinary units dealt in around 8½.

There was less business in Manila Railway debentures, but the "A" have been steady at 78 and the "B" close to 70, while the preference shares were dealt in around 9s. 3d.

Nitrate Rails shares were 19s. 6d. and Taltal 14s. 6d. There was also less business in Mexican Central "A" debentures at 67. In other directions, Chilian Northern 5 per cent. debentures marked 28¼.

A feature was commencement of dealings in White Pass Yukon common shares of no par value, which changed hands actively around $5. The 5 per cent. debentures transferred around 33½ and the 4½ per cent. debentures were 28. Calgary & Edmonton 4 per cent. debentures marked 75½.

Canadian Pacifics have been firmer at $65 and the preference stock and debentures kept at 61 and 76½ respectively. Canadian Pacifics, in common with other dollar stocks, continue to move closely with the trend of New York markets, which, according to some views, may not move ahead until the result of the U.S. Presidential election later in the year. Then there may be possibilities of increased activity and rising prices for dollar stocks.

Road transport shares have given a firm display on the implications of the Government transport proposals. B.E.T. deferred stock rose sharply to £395, awaiting the annual meeting, where it is thought in the City that Mr. Drayton may have interesting comments and views on the transport proposals. West Riding shares have changed hands around 31s. 6d., Southdown were 72s. 6d., Lancashire Transport 39s. 6d.

Engineering and allied shares have participated in the market rally. Guest Keen were 50s. 9d. while Babcock & Wilcox were 63s. 9d. Vickers improved further to 42s. 3d., and Cammell Laird 5s. shares were 11s. 3d. Higher dividend hopes were reflected by a further rise in John Brown to 42s., while Ransome & Marles 5s. shares were 22s. 9d. and T. W. Ward 69s. 6d.

Among shares of locomotive builders and engineers, Beyer Peacock were 27s. 6d., North British Locomotive 14s. 4½d., while Hurst Nelson were 49s. at Glasgow and Birmingham Carriage 31s. 3d. at Birmingham. Vulcan Foundry were 21s. 3d., Gloucester Wagon 10s. shares 11s. 3d., and Charles Roberts 5s. shares have risen to 21s. 3d. Wagon Repairs 5s. shares changed hands around 11s. 9d.

The prices of shares of locomotive builders and engineers generally have not participated in the better market trend. If the latter continues, however, the good yields and reasonable prospects of dividends being maintained can be expected to attract buyers.

Traffic Table of Overseas and Foreign Railways

	Railway	Miles open	Week, or month ended	Traffics for week: This year	Traffics for week: Inc. or dec. compared with 1950/51	No. of week	Aggregate traffics to date: Total 1951/52	Aggregate traffics to date: Increase or decrease
				£	£		£	£
South & Cen. America	Antofagasta ...	800	4.7.52	127,210	— 5,640	27	4,164,360	+ 1,054,190
	Costa Rica ...	281	May, 1952	c1,552,666	+ c986,013	48	c14,398,842	+ c4,220,309
	Dorada	70	May, 1952	32,469	— 2,714	22	166,616	— 10,601
	Inter. Ctl. Amer....	794	May, 1952	$1,164,607	— $109,881	22	$5,934,561	+ $35,884
	Paraguay Cent. ...	274	4.7.52	G246,833	+ G39,990	1	G246,833	+ G39 990‡
	Peru Corp. ...	1,050	June, 1952	$9,361,000	+ $828,000	52	$101,373,000	+ $8,619,000
	,, (Bolivian Section)	66	June, 1952	Bs.16,557,000	+ Bs.590,000	52	Bs.197,648,000	+ Bs.37,299,000
	Salvador	100	Apr., 1952	c139,000	— c27,000	44	c1,746,000	+ c17,000
	Taltal	122	June, 1952	$2,062,000	+ $387,000	52	$28,040,000	+ $7,495,000
Canada	Canadian National†	23,473	May, 1952	19,453,000	+ 1,554,000	22	91,275,000	+ 9,163,000
	Canadian Pacific†...	17,037	May, 1952	13,042,000	+ 581,000	22	60,769,000	+ 4,122,000
Various	Barsi Light* ...	167	May, 1952	29,565	+ 2,895	4	66,825	— 15,862
	Gold Coast ...	536	Apr., 1952	323,411	+ 29,019	4	323,411	+ 29,019
	Mid. of W.Australia	277	Apr., 1952	55,294	+ 14,257	44	577,894	+ 179,361
	South Africa ...	13,398	21.6.52	2,013,838	+ 167,770	12	23,250,461	+ 1,154,461
	Victoria	4,744	Feb., 1952	2,176,542	+ 436,697	35	—	—

* Receipts are calculated at 1s. 6d. to the rupee † Calculated at $3 to £1
‡ Receipts for four days in 1952-53, compared with six days in 1951-2